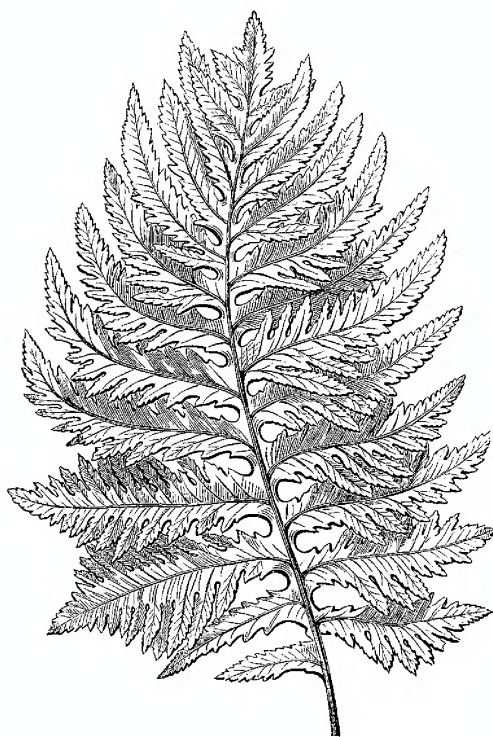


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Edited by A.M. Paul

THE BRITISH PTERIDOLOGICAL SOCIETY

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The BRITISH PTERIDOLOGICAL SOCIETY was founded in 1891 and is still a focus for fern enthusiasts, its wide membership including gardeners, nurserymen and botanists, both amateur and professional. It provides a wide range of information about ferns through its publications and website, and also organises indoor and field meetings, garden visits, a plant exchange, a spore exchange and fern book sales. The Society's journals, *The Fern Gazette*, *Pteridologist* and *Bulletin*, are published annually. *The Fern Gazette* publishes matter chiefly of specialist interest on international pteridology, the *Pteridologist*, topics of more general appeal, and the *Bulletin*, Society business and meetings reports. **Website: www.eBPS.org.uk**

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(Front cover: '*Polypodium vulgare* var. *cambricum*'. Illustration from: *Catalogue of ferns cultivated by W. & J. Birkenhead, Fern Nursery, Sale near Manchester*. No. 21. Jan. 1890.)

Back numbers of *The Fern Gazette*, *Pteridologist* and *Bulletin* are available for purchase from P.J. Acock, 13 Star Lane, St Mary Cray, Kent BR5 3LJ; E-mail: BackNumbers@eBPS.org.uk

THE BULLETIN

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RETIRING PRESIDENT'S ADDRESS

From Bell Bank to Ballaghbeama and back – a personal fern odyssey

Fred Rumsey

(Presented after the AGM at RHS Harlow Carr, Harrogate, 13 April 2019.)

This is essentially the story of one fern and how it has been responsible for shaping my life and how perhaps in some small way I have been responsible for contributing to our understanding of its life. That fern is *Vandenboschia speciosa* (Willd.) G.Kunkel, still best known to most British botanists as *Trichomanes speciosum* Willd. or the Killarney fern.



photo: Fred Rumsey

Illustration of Killarney fern from Ray, 1724

to feed the growing town of Bingley below. The few scrappy specimens of juvenile plants collected in 1785, a witness to the environmental changes, were to prove the last, and for almost 20 years, until rather more magnificent examples began to be found in a range of Irish sites, no more was known of the plant.

The fern's documented history begins in 1724 when Richard Richardson collected at "Belbank, scarce half a Mile from Bingley, at the head of a remarkable Spring, and no where else that he knows of" the plant that Dillenius (in Ray, 1724) would call "*Filix humilis repens, foliis pellucidis & splendentibus, caule alato*" and beautifully illustrate as Table III, Fig. 3. In a rather neat fashion, the specimen from which this drawing was made is now under my care in the Sloane Herbarium at the Natural History Museum. The "remarkable Spring" had by the 1780s been partially destroyed, the water channelled down



photo: Fred Rumsey

Richardson's 1724 Bellbank specimen in Herb. Sloane.

From the collections of the
Natural History Museum, London.

One of the first British plant species to achieve legal protection (in 1976), the Killarney fern has always had a unique allure to collector, grower and recorder and has evoked an aura of secrecy and suspicion unlike any other species. Perhaps it is the legendary rarity, maybe the diaphanous beauty, or the buttock-clenching inaccessibility of some of its best populations, all set against the reported past ransacking of its known locations to fuel Pteridomaniacs' desires, that create this mystique? In any case it has a series of attributes that make it both fascinating and a difficult organism upon which to work. I would get to learn that 'interesting' doesn't necessarily mean good to research for a PhD – there is a reason why intelligent people work on dreadfully tedious small white crucifers!



photo: Martin Rickard

Fred Rumsey at a Killarney fern site in Wales

My connection with the plant started with the arrival of Dr Don Farrar in the lab of Dr Liz Sheffield in Manchester in 1989. He was on a sabbatical, keen to hunt for *Hymenophyllum tunbrigense* to prove that the single population in the Appalachians was indeed conspecific. His PhD had seen him discover a range of ferns existing in the United States as gametophytes only, independent of their sporophyte generation. One of these was a member of *Trichomanes sensu lato*, although it then still wasn't clear whether this was the same as *Vandenboschia boschiana* (the North American equivalent of the Killarney fern), which showed a much more restricted distribution. (It isn't!) Don was thus very familiar with *Trichomanes* gametophytes and so when he returned from his first sampling trips to the Lakes and Snowdonia he had not been surprised in several of the sites to find gametophytes that he knew to be *Trichomanes*. I often loitered in the lab, while not writing up a rather unsuccessful PhD on the ecophysiology of boreal hemi-parasites, and having always wanted to see the Killarney fern and having a good idea of its history and known distribution in Britain and Ireland, I soon became involved. Don had also contacted Clive Jermy at the NHM and together we began to plan where we might search, largely based initially on history, then geology, topography and the presence of indicator species. High on the hit-list was Bell Bank and so it was on a winter's day 30 years ago, that with great delight the party found large quantities of the gametophyte here more than two centuries after the last sporophyte had been found. With an ever improving search image we would go on to find the gametophyte in many more sites. After Don's return to Iowa the baton passed to Clive and myself and, ably assisted by my friend Alistair Headley, Johannes

Vogel and others, such as the assiduous Arthur Chater, within a very short time we recorded the presence of the species in 51 vice-counties and 142 hectads (Rumsey, Jermy & Sheffield, 1998). At that time the sporophyte in Britain was only known to be extant as 14 colonies in ten localities (Ratcliffe *et al.* in Wiggington, 1999), while in Ireland Curtis and McGough (1988) reported ten sites in six vice-counties although this was clearly an under-recording given the enigmatic and deliberately vague pronouncements by Ratcliffe *et al.*, 1993. The discovery of the gametophyte I think re-ignited an interest in this species, no doubt aided by its adoption onto various European conservation legislation.

My first encounter with the sporophyte was a moment that I will always treasure – it had everything that makes field botany the most delightful of pastimes – amazing plants, a stunning landscape and a cracking companion. I don't now recall how but I had been put in touch with Dewi Jones, a lovely man who knows the plants of Snowdonia like few others and who has a passion for their discoverers. This is all captured in his excellent 1996 book *The botanists and mountain guides of Snowdonia*, which I can't recommend highly enough. Dewi offered to be my 'Will the Boots' as long as I promised never to take a party to the site. Anyone who has been lucky enough to scramble up and peer through the trickle, into the small fridge-sized space on the Moel Hebog range where this plant had been quietly growing, probably for many hundreds of years before it was found by J. Lloyd Williams in 1887, will know how I felt. I believe that within a kilometre radius of this site are to be found more species of fern and clubmoss than anywhere else of comparable area in Britain and Ireland, including such delights as *Woodsia ilvensis*, *Asplenium septentrionale*, *A. xalternifolium*, *Polystichum lonchitis* and *Dryopteris aemula*.

I was extremely fortunate that with Liz I got funding and the chance to do another PhD, this time on the Killarney fern, in an effort to understand how and when it had achieved its current distribution and further investigate the still somewhat mysterious relationship between its generations. Various people, some sadly no longer with us, played major roles in this work, which grew from my PhD to the Post-doctoral study that was to be my route into the NHM and continues to exercise me. Indeed it is probable that had I not stumbled onto this plant I would not have joined the BPS and my personal life and career would have gone off on a very different route. I have much to thank this fern for! Among the people that made this possible I must mention Ken Trewren, whose finds of developing small sporophytes in North Yorkshire in the mid-1990s were to prove the vanguard to the current renaissance of the sporophyte in these islands. I would also mention Tony Church who with great kindness introduced me to the treasures of Arran. My final Killarney fern hero is the quietly unassuming Mark Jannink who through a combination of detective work and fearlessness has now probably seen more Killarney fern plants in Britain and Ireland than anyone



photo: Mark Jannink

**Fred Rumsey at a very different Killarney fern site
in Co. Waterford, Ireland**

else. It was therefore a great pleasure to visit the South-west of Ireland with him in 2018, paying our respects to 40 separate sporophytes in 19 sites, four of them probably not previously known. We were also lucky enough, by complete good fortune, to discover *Asplenium xclermontiae* in Killarney whilst we were at it! (Rumsey, 2018).

One aspect that had changed since my initial studies was the work done by Emer Ni Dhuill, who had shown using flow cytometry that the sporophytes of our species were not just tetraploid, as had been assumed since the counts made by Manton and co-workers, but also diploid and triploid. This chimed with beliefs I had harboured that the differences I had seen in morphological characters and DNA sequence divergence between Azorean and other Macaronesian plants might support recognition at some taxonomic level. The situation is clearly very much more complex than we had ever

believed, and disentangling the molecular and morphological data and making sense of it all will take some time yet.



photo: Fred Rumsey

**Current frond of Killarney fern
at Bell Bank**

It is clear, however, that things are changing and that as they do we get the opportunity to learn more about this fascinating plant. And so I return to where it all began, to Bell Bank. During my PhD I visited the site most months to take detailed micro-environmental readings; at that time only gametophytes existed there. Subsequently, and perhaps as a consequence of the climatic changes we have witnessed over the last two decades, new sporophytes have formed in at least two separate areas on the site. These now more than rival the biggest plants collected by Richardson nearly 300 years ago. This is not an isolated occurrence as we witness recruitment of new plants in a range of sites from Cornwall to Arran.

The rest of the world may be going to hell in a handcart but the Killarney fern will survive... It's what it does and is just one of the reasons why I admire it so.

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NATIONAL FIELD & GARDEN MEETINGS

ISLE OF WIGHT – 18-19 June

In the evening of 17th June, members met for dinner at the Channel View Hotel, Shanklin.

Saturday

Steve Munyard

In fine weather, 13 members met Colin Pope, the BSBI Recorder for the Isle of Wight, at Windy Gap car park (40/494758) on St Catherine's Point for our first field visit of the weekend.

As we walked down the steep grassy slope towards the seashore, Colin pointed out two flowering plants of local interest: *Astragalus glycyphyllos* (wild liquorice) and *Ranunculus parviflorus* (small-flowered buttercup). Lower down the slope, muddy banks supported a number of plants of *Asplenium scolopendrium*, *Equisetum telmateia*, *Dryopteris filix-mas* and *Polystichum setiferum*. The greensand landslips to the west of us were covered with *Pteridium aquilinum*.

The low ledges above the beach were slippery due to recent rain and were challenging to cross. *Anagallis tenella* (bog pimpernel) was seen in flower as we crossed to see the scarce *Equisetum xfont-queri*; many stems had well-developed cones. Also present were a number of *Osmunda regalis* and *Dryopteris dilatata*. The pools of water contained a number of palmate newts (*Lissotriton helveticus*). Many pictures were taken and we then ascended the steep path back to the car park; fortunately the muddy paths were now less slippery. A small group tried to locate the *Asplenium marinum* on low lying cliffs, this being the most easterly colony in the UK. They were unsuccessful due to difficulty negotiating the terrain, and felt that the time required would be unfair on the rest of the party.



photo: Paul Ripley

St Catherine's Point, Isle of Wight

Steve Munyard & Mike Canaway
with *Osmunda regalis* and *Dryopteris dilatata*

Asplenium marinum on low lying cliffs, this being the most easterly colony in the UK. They were unsuccessful due to difficulty negotiating the terrain, and felt that the time required would be unfair on the rest of the party.

We then moved on to Wydcombe Manor Estate, an area owned by the National Trust. We parked at 40/5060.7855 and walked down a shaded damp lane, passing specimens of *Polystichum setiferum*, *Dryopteris filix-mas*, *D. dilatata*, *Asplenium scolopendrium*, *Athyrium filix-femina* and *Polypodium interjectum*. We arrived at a field (40/5049.7841) where *Ophioglossum vulgatum* was growing under *Pteridium aquilinum*. The plants were fertile, in good condition and large. Returning to the cars, *Polypodium interjectum* was recorded on the manor walls.

Our next stop was Shanklin Chine, a steep, rocky, shaded gorge with a river running through it. The Chine supports lush plant growth due to the shade and high humidity. Alien species grew on the sides of the Chine, including *Woodwardia radicans*, *Dicksonia antarctica* and a possible *Woodwardia fimbriata*. These plants were identified using binoculars as it was too steep to examine the plants close up. Native species recorded were



photo: Bryan Smith

Wydcombe Manor Estate, Isle of Wight

Pat Acock, Mike Canaway, Grace Acock, Karen Munyard, Gill Smith, Lindsey Holleworth, Paul Ripley, Steve Munyard, Jo Basil, Robin Walls, Colin Pope, Bryan Smith

Asplenium scolopendrium, *Polystichum setiferum*, *Dryopteris dilatata*, *D. affinis*, *D. borrieri* and *Equisetum telmateia*. A number of large (planted) *Dicksonia antarctica* were present near the café and it is likely that these had shed the spores from which the smaller plants on the side of the Chine had grown.

At the lower end of the Chine we all congregated to enjoy tea and cakes.

Sunday

Pat Acock

Despite the poor weather forecast we were blessed with a very fine day for our visit to Ventnor Botanic Garden (40/547768). We were most fortunate to have Colin Pope join us once more for the day. Besides his thorough knowledge of the island's flora he not only knows the botanic gardens very well but has a great knowledge of the plants growing there. He outlined the history of the gardens. For a century a chest hospital with extensive grounds occupied the site. When it was demolished in 1969 the site was taken over by the local authority and it was decided, in association with Sir Harold Hillier, that it should be developed as a garden where half hardy and tender plants could be grown outside. Over time, the gardens were designed to grow species from floristic regions in close association, and Australian, New Zealand, Mediterranean and other gardens were developed. Since 2012, the Garden has been managed as Ventnor Botanic Garden CIC.

Amongst the members present were plantsmen who asked varied and informed questions. Colin was such a person himself and was able to answer most questions and point people in the direction of plants they wanted to see. Of course ferns were what most members had come to see and chief among these was the *Tmesipteris lanceolata* that had sprouted from the trunks of *Dicksonia antarctica*. The dicksonias had been brought in long before they were fashionable in Britain, and planted in a dell especially selected to show them off. *Zealandia pustulata* (*Phymatosorus diversifolius*/*Microsorium pustulatum*) had also sprung from their trunks.

We moved on to look at *Cyrtomium falcatum*, which was planted in the gardens but had since spread along a bank a considerable distance and was growing luxuriantly. In the south of Britain colonisation by this plant, and also the only other species commonly encountered here, *C. fortunei*, seems to be gathering momentum. Much counting of the pinna pairs took place, and on the largest specimens one or two fronds had 13 pairs, with

most having around 12. Clive Stace's upper limit (Ed. 4 of *New flora of the British Isles*) of 11 pinna pairs seems a little low for extremely old and mature groups of *C. falcatum* growing in these almost frost-free southern conditions. The many other characters, such as pinna shape, pinna size and the high gloss convinced us that these were indeed all *C. falcatum*. We also encountered *Pteridium aquilinum*, *Polypodium interjectum*, *Dryopteris dilatata*, *D. affinis*, *D. filix-mas*, *Asplenium scolopendrium* and the exotics *Parablechnum cordatum* and *Lomaria (Blechnum) discolor*. Colin was pleased to show us the St Helena rarity *Trochetiopsis eythroxylon*, a tree whose wood people used to make their homes. It is now extinct in the wild but being shared around botanic gardens in the hope of keeping it from extinction.



photo: Bryan Smith

Ventnor Botanic Garden, Isle of Wight

Paul Ripley with bank of *Cyrtomium falcatum*

After lunch we went on to Bonchurch Pond to check on the progress of the *Woodwardia radicans* that we had been shown by Colin in 2006. There were seven medium-sized plants clearly visible in a deeply shaded area (40/5746.7806). We also saw *Asplenium scolopendrium*, *Polystichum setiferum* and *Dryopteris filix-mas*.

Paul Ripley, our leader, took the opportunity while we gathered by the cars to present Colin with a few pteridological gifts, new from the merchandising department courtesy of Gill Smith, as a thank-you to Colin for giving up the whole weekend and for his most informative leadership.

In developing rain we relocated to the other side of the island at Freshwater. By the time we arrived the rain had stopped and the day was warming again. We went into the low willow marsh at 40/3489.8616. This end of the island, which includes The Needles, has been virtually cut off from the larger part of the Isle of Wight and has been inundated by the sea at times. A vast amount of *Thelypteris palustris* with *Equisetum arvense* covered this area, just three metres above sea level, with *Dryopteris filix-mas*, *Polystichum setiferum*, *Asplenium scolopendrium* and bracken on the raised area surrounding the marshy lower ground. Robin Walls also found *Carex acutiformis*.

Our last site was Afton Marsh, slightly higher woodland at nine metres above sea level, with areas of marsh and some open water. Our task was to try to find *Dryopteris carthusiana*, which had not been seen in the area since 1992 and had eluded us on the previous two BPS meetings of 1990 (*Bulletin* 4(1): 15-16) and 2006 (*Bulletin* 6(5): 353-355). We finally showed our colours. Having become detached from the others I found four groups at 40/3443.8650. When I reformed the group they had gone one better in finding not only *D. carthusiana* but also a very good candidate for *D. xdevereri* at 40/3445.8657.

Thanking Colin once more for all his preparation and patience we returned to base for one last meal together. Paul Ripley was thanked for all his work planning the meeting and keeping the group on task.

CULTIVAR GROUP MEETING: OXFORDSHIRE GARDENS – 6-7 July Julian Reed

On Saturday we assembled near Chipping Camden in Gloucestershire (!) at Hidcote, a well-known National Trust garden. We were joined by our new member and gardener at Hidcote, Joanne Weston. I was very pleasantly surprised at the wide range of ferns in the garden, some of which were obviously old established plants such as *Polypodium cambricum* ‘Cambrian’ Base form, a good range of *Polystichum* and *Dryopteris*, and interesting use of *Asplenium x lucrosum* (‘*A. bulbiferum*’ of the trade) as dot plants and in outdoor containers. There were also more modern plantings. It is well worth a visit.



photo: courtesy Julian Reed

Hidcote, Gloucestershire

Ashley & Jo Basil, Joanne Weston, Julian Reed,
Terry Hackwill, Alison Evans

We went on to Alistair and Margaret Urquhart’s garden at Kidlington. The range and quality of their plants is always amazing, and included some lovely *Asplenium scolopendrium* varieties and incredible polystichums. It is a very beautiful garden with a lot of stunning ferns. Many thanks to Margaret and Alistair for their kindness in hosting us. Their son Philip’s nearby garden also contained some attractive ferns.

On Sunday we visited Oxford Botanic Garden, founded in 1641 and the oldest in the country. The garden has been given some exceptional ferns in the past and still has an interesting range of tropical, xeric and temperate ferns. Old varieties in the garden included *Polypodium cambricum* ‘Omnilacerum Oxford’, and a wide range of *Dryopteris* and *Polystichum* varieties. There were also a good number of species, including *Adiantum capillus-veneris*, colonising the brickwork of the greenhouses.



photo: courtesy Julian Reed

Waterperry Gardens, Oxfordshire

Eleanor & Nick Hards (in front), Terry Hackwill,
Julian Reed, Jo & Ashley Basil

Our final venue was Waterperry Gardens near Oxford, originally set up to teach horticulture to women. It did a lot during the war with the Land Army and still has an educational role. This interesting and beautiful eight-acre garden has Plant Heritage National Collections of *Porophyllum* and *Ligulatae* saxifrages. The number of ferns is very limited, however, it had some good cultivars, including *Asplenium scolopendrium* ‘Crispum’.

SCOTLAND – RARITIES AND SPECIALITIES, PART ONE – 15-19 July

(Leader: Roger Golding)

Introduction

Roger Golding

The original idea was for a single long week meeting to see as many as possible taxa either unique to Scotland (within the UK) or particularly well represented there. In the event it proved necessary to split it into more than one meeting, so part two will be in 2020. I am indebted to many people for their help in sorting out the best locations to visit, but I particularly want to mention Clive Dixon, John Edgington and Steve Munyard. Steve kindly agreed to accompany me on a rather exhausting reconnaissance trip to Corrie Fee, which proved critical to locating some of the ferns. A total of 18 people took part in the meeting, although some came only for specific days.

Many of us were staying at the Loch Insh Outdoor Centre, and for those who arrived early enough, on Sunday afternoon I led a quick foray to the original location for *Pteridium aquilinum* subsp. *pinetorum* near Loch an Eilein (28/8966.0901). It was first spotted as something different by Adrian Dyer, and subsequent work by Chris Page confirmed its distinct identity.

Monday 15th – Glen Feshie: Meall Buidhe – Geal-charn Ridge (v.c. 96, East Inverness-shire)

Brian Dockerill

On the first of five full days in Scotland we met at a car park halfway down the road in Glen Feshie at 28/8526.0123. We left the cars and followed the obvious track through the woods, soon seeing in short succession *Struthiopteris* (formerly *Blechnum*) *spicant*, *Dryopteris affinis*, *D. borrieri*, *D. cambrensis*, *D. dilatata* and *D. filix-mas*. *D. carthusiana* was also present along with several candidates for *D. xdevereri*. Samples of the latter were taken for subsequent examination of their spores and at least one sample proved to have mostly abortive spores. Also along this path were plentiful ‘normal’ *Pteridium aquilinum* along with *P. aquilinum* subsp. *pinetorum*, prompting discussion about the distinctions between them.

There followed a longish climb, forking left on two occasions, taking us onto the narrow path heading for the pass between Creag Mhigeachaidh and Geal-charn, along which we added *Oreopteris limbosperma* to our list. Before reaching the pass we left the path to ascend the south-west facing slopes of Geal-charn, finding plants of *Huperzia selago* that looked close to subsp. *arctica*. The exact identity of these was the subject of current research and Roger had been requested to take samples for subsequent study at the Natural History Museum and elsewhere; the studies are ongoing. Shortly after reaching the screes we found *Polypodium vulgare* and further clubmosses – *Spinulum* (formerly *Lycopodium*) *annotinum* and *Diphasiastrum alpinum*, before finally reaching



photo: Paul Ripley

Above Glen Feshie

Martin Rickard, Laurence Sutton & Cliff Davies
photographing *Lycopodium lagopus*

the summit of Geal-charn. At 920 metres this is just over the magic figure of 3,000 feet but, not being the highest point of the ridge, does not qualify as a Munro. It did, however, provide a perfect lunch spot with panoramic views on this beautifully sunny day.

Heading towards Meall Buidhe we were taken to see several large colonies of *Lycopodium lagopus*, apparently thriving and increasing in extent (28/886010; 28/888010). Continuing in the same direction we were delighted to find, in this largely bare rocky terrain, a beautiful green gully. This reaction was further strengthened when we came to realise how rich in ferns it was, containing, along with *Oreopteris limbosperma*, oddly uncommon so far, *Athyrium distentifolium*, *Phegopteris connectilis* and *Struthiopteris spicant*. *Dryopteris expansa* and *D. dilatata* were also there, growing together and providing the perfect opportunity to



photo: Paul Sharp

***Lycopodium lagopus* between Geal-charn and Meall Buidhe**

compare these similar species.

Continuing on our way towards the source of the Coire na Cloiche we found, in the heather, many colonies of *Diphasiastrum xissleri* – very distinctive with its flattened stems (28/885003). From here we descended to meet a good path where it crossed the Allt Coire na Cloiche, which we followed to return to the cars. A tiring but very enjoyable and productive day.



photo: Paul Sharp

***Diphasiastrum xissleri* on west slopes of Meall Buidhe**

Tuesday 16th – Coire Ardair (v.c. 97, West Inverness-shire)

Bruce Brown

It was less than an hour's drive west to Aberarder Farm by Loch Laggan (27/483872) and the start of the path up Coire Ardair within the Creag Meagaidh Nature Reserve. A few spots of rain threatened but it generally stayed nice all day, fortunately, as we had a five-kilometre walk to our site. The plan was to check out the *Athyrium distentifolium* below the Coire Ardair crags and hopefully re-find some old records for var. *flexile*, not seen for some time. In this respect we were not successful but other interesting taxa were found.

We were met at 10a.m. by the site manager, Rory Richardson, who gave us a fascinating talk on the history and conservation work carried out on the reserve, combining sympathetic deer management with financial sustainability and maintaining local employment, which other estates are starting to copy. Tree cover and associated wildlife are both now flourishing throughout the reserve. Duncan, a reserve volunteer, joined us as we set off up the well-maintained path through the lower valley.

Birch woodland on the early part of our ascent gave us a good start to our fern sightings – *Dryopteris filix-mas*, a lot of *Pteridium aquilinum*, *Oreopteris limbosperma* and *Struthiopteris spicant*. *Dryopteris dilatata* and *D. cambrensis* were more occasional, along

with even fewer *Athyrium filix-femina* and *Dryopteris borrieri*. A few clumps of *Phegopteris connectilis* were a welcome sight. As we steadily gained height, exciting views of the Creag Meagaidh crags opened up ahead, spurring us on. Our first *Dryopteris expansa* was seen, and also *Lycopodium clavatum*.

Lochan a' Choire was reached for lunch (27/439883). Some *Isoetes lacustris* quills were washed up by the water's edge and by the outflow was a nice colony of *Equisetum sylvaticum*. We continued up the path heading for 'The Window', a narrow gap or col in the mountain ahead, with the spectacular crags of Coire Ardair directly above the lochan to our left. After ascending a few hundred metres we diverted towards the grass and scree outcrops along the sides and base of the crag, which provide late snow beds in most winters, and are the ideal habitat for *Athyrium distentifolium* (27/433883). This was prolific in extent, but disappointingly very small in size; maybe younger growth had earlier been eaten off by deer and was just re-growing. Nothing definite enough to be confirmed as var. *flexile* was found.

Other ferns common in this habitat were *Dryopteris oreades*, *D. expansa*, *Cryptogramma crista*, *Phegopteris connectilis*, *Huperzia selago* and *Diphasiastrum alpinum*. Rarer finds were *Spinulum annotinum* and *Cystopteris fragilis*. Clive spotted a colony of *Gymnocarpium dryopteris* under the crags at the back of the lochan, probably a richer area for plants, and the 'pièce de résistance' there was Paul Ripley's find of *Polystichum lonchitis*. By now it was gone 4p.m. and time to retrace our steps over the five kilometres back to the cars.

Wednesday 17th – Bridgend of Livet, Hill of Towanreef, Cove Bay

Paul Ripley

This day involved of necessity considerable distances between sites, but some very special ferns were seen.

Bridgend of Livet (junction of B9136 and B9008) (v.c. 94, Banffshire)

By the Bridgend of Livet cemetery (38/1943.2994) a new bridge had replaced the old stone bridge over the River Spey. The old bridge still exists, and below it was *Dryopteris filix-mas*, *D. borrieri* and a *Polypodium*, but we had come to see *Cystopteris dickieana*. I spent some time looking on the walls of the old bridge, and the plants resembled *C. fragilis*. However, broader-fronded putative *C. dickieana* was reported from the walls of the cemetery. For the record, on all the plants I examined, pinnule veins ended at the points of the pinnules (*C. dickieana* shows a greater tendency to have some veins ending in the sinus, although most end in the typical *C. fragilis* tip position). [Note: spores from plants on both the bridge and cemetery were later examined and proved to be rugose rather than echinate, showing that they were *C. dickieana*. RG]

Hill of Towanreef (v.c. 93, North Aberdeenshire)

After a drive through very beautiful rolling countryside with its forests and cattle, and with rounded heather-clad mountains never far away, we parked by the roadside (B9002) (38/460247).

After a hard slog through tussocky troughed grass and heather we reached a low ridge with small outcrops of serpentine rock (38/452240). On the way we passed sparse *Dryopteris dilatata*, *D. filix-mas*, *D. borrieri* and *Struthiopteris spicant*. However, in scree and in cracks in the strange light-coloured, pinkish rocks were *Asplenium viride* and the serpentine form of *A. adiantum-nigrum* (var. *silesiacum*). *A. adiantum-nigrum* is a variable fern, but these plants had rather broadish fan-shaped pinnules. The *A. viride* was



photo: Laurence Sutton

A. adiantum-nigrum var. *silesiacum*,
Hill of Towanreef

often small and congested in appearance. *Huperzia selago* was also noted here, and I found a shoot of *Equisetum fluviatile* placed under my windscreen wiper on my return to the car, so I presume someone must have found it (or it was a coded message whose significance I have yet to elucidate).

Cove Bay (v.c. 91, Kincardineshire)

The rain that had been threatening finally caught up with us as we drove to Cove Bay, just south of Aberdeen, parking above the harbour at 38/9563.0079.

Our first stop, chosen to allow time for the tide to go out, was to a tiny inlet (38/9557.0097), at first sight seemingly inaccessible. Probably there had once been a cave here, but the roof had fallen in some time ago. We descended by a steep twisty and muddy overgrown path, to a cliff-face over which a small waterfall descended and seepage dripped from the overhanging cliff. It was difficult to tell which contributed most to our wetness: rain, cliff-face or mud. We saw two forms of *Cystopteris* here: typical *C. fragilis* and a broader-fronded form that we presumed to be *C. dickieana*. Also present were *Asplenium scolopendrium*, *Athyrium filix-femina* and *Pteridium aquilinum*.

We retraced our steps and at Cove Bay itself clambered over rocks to access the sea-cave where the fern named for and described by Dr Dickie, *Cystopteris dickieana*, was first noted in the 1850s. Again the plants had broader and more foliose fronds than typical *C. fragilis*. For the record, I examined several fronds. The veins ended at the tips of the pinnule lobes, but the tips were often rounded or flattened with a sinus where the vein ended. To my hazy recollection, the plants seemed larger but much less numerous than on my first visit in 1997. Also growing here were *Asplenium marinum*, looking somewhat scrappy, and *Athyrium filix-femina*.



photo: Laurence Sutton

Cystopteris dickieana in cave at Cove Bay

Although the drive back was long, the roads were traffic-free and the weather front passed to allow clear viewing of lovely scenery. Fish and chips from Aviemore, eaten in Brian and Sue Dockerill's chalet at Loch Insh, rounded off another excellent and well-planned day.

Thursday 18th – The Colonel's Bed, Glen Ey, and Glenshee Ski Centre (v.c. 92, South Aberdeenshire) Sue Dockerill

On an overcast day with scudding clouds we met at the car park a few miles west of Braemar (37/0894.8921). From here an easy path took us south up Glen Ey. Initially there was little to see from a ferny point of view except *Struthiopteris spicant*, but just before the path crossed the river, a stand of *Equisetum sylvaticum* was seen on the left hand side. At the river crossing there was a nice patch of *Phegopteris connectilis* on the bank, along with *Oreopteris limbosperma*, *Dryopteris filix-mas* and *D. borrieri*. As the path climbed, Roger spotted a colony of *Gymnocarpium dryopteris* on the stony slope to the east. At around 37/0864.8719, a side path, conveniently labelled 'Col Bed' led down to the stream to the east. On the way down we saw several patches of *Lycopodium clavatum* growing in the barer patches amongst the heather.

At this point, Ey Burn is in a picturesque rocky gorge, narrow and tree-lined and having plenty of humidity to suit the ferns we were after. Access to the gorge was only possible in a limited number of places, and in the first of these a mossy bank contained some lovely plants of *Athyrium filix-femina*, *Dryopteris dilatata*, *D. cambrensis*, *Struthiopteris spicant* and *Polypodium vulgare*. Some brave souls made it all the way down to the river and found *Cystopteris fragilis*. Further up the gorge we saw more *Phegopteris connectilis* and *Gymnocarpium dryopteris*, and our first *Polystichum lonchitis*. On the rocks on the opposite side of the gorge, *Asplenium viride* was also seen. We continued up the glen, looking in particular for the *Equisetum* species that had been seen previously, but were unable to find any. However, Clive, who had ranged wider than the rest of us, did see *E. arvense* and *Selaginella selaginoides*, both recorded on previous visits.



photo: Brian Dockerill

***Botrychium nordicum*,
Glenshee Ski Centre**



photo: Malcolm Hutchinson

Looking for lycopods and moonworts near Glenshee Ski Centre

After a welcome stop for tea and cakes at the Glenshee Ski Centre, we explored the man-made slopes behind the buildings (37/138782). There were some really lovely plants of *Botrychium nordicum* with its serrated leaflets, and extensive colonies of *Huperzia selago*, *Selaginella selaginoides*, *Diphasiastrum alpinum* and *Lycopodium clavatum*. *Spinulum annotinum* proved more elusive, but a few patches were eventually seen at the top of the slope, along with two tiny flowering spikes of lesser twayblade, giving us wet knees all round. Finally, we saw *Equisetum palustre* on the way back to the cars.

Over a pleasant meal in the Glen Clova Hotel that evening (see photo overleaf), Alison gave Roger a small gift as thanks for organising such a fantastic set of sites – and there was still one more day to go!

Friday 19th – Corrie Fee (v.c. 90, Angus)

Laurence Sutton

The final day was upon us: a culmination of great expectations following what had already been a rich week of ferns, horsetails and clubmosses. Not only were we to enter the beautiful and wondrous Corrie Fee, there was also the anticipation of the chance to see both *Woodisia alpina* and *W. ilvensis* at reasonably accessible sites without causing damage to their habitats.

We shared cars and drove to the Glen Doll ranger centre at the top of a three-mile single-track road (37/2834.7612). Here we had the good fortune of being granted access by car some way into the Glen Doll forest before parking and completing the forest walk before climbing up to the rise overlooking Corrie Fee (37/2535.7525). It was an inspiring aspect in



photo: courtesy Alison Evans

Dinner at Glen Clova Hotel

Alison Evans, Brian Dockerill, Paul Sharp, Roger Golding, Roland Ennos,
Martin Rickard, Laurence Sutton, Fred & Carmen Horner, Yvonne Golding,
Paul Ripley, Bridget Laue, Sue Dockerill, Michael Hutchinson

the sunny conditions, with only a ten-minute shower to cool us off. We had encountered much of interest in the forest. Of note amongst the usual suspects along the forest path was a robust *Huperzia selago* growing on a large boulder, in a more recognisable form in comparison with the examples seen on Geal-charn ridge on the Monday (*q.v.*), and further along was an equally fine specimen of *Spinulum annotinum*. In the same area in a small damp gully we were able to identify *Dryopteris dilatata*, *D. expansa* and possibly their hybrid *D. xambroseae*. An adjacent *D. affinis* plant was thought to be *D. cambrensis* growing amongst *Equisetum sylvaticum*.

Once we had exited the forest, John Edgington, accompanied by Paul Ripley, set off separately to check a *Woodsia ilvensis* site under Craig Rennet, long known to John who has been monitoring them for many years. When we met up again at the end of the day he reported that the two stations at the site appeared stable.

The main group, led by Roger, followed the well-established meandering path along the Fee Burn before heading upwards slightly south of the Corrie. The numerous moraines were impressive examples of the effects of glaciation and on a boulder on top of a moraine adjacent to the path we found amongst the bilberry *Cystopteris fragilis*, *Asplenium trichomanes* subsp. *quadrivalens* and *Polypodium vulgare*.

Heading upwards away from the burn, we encountered a mix of *Equisetum sylvaticum* and *E. pratense* and Roger demonstrated the features of the hybrid of these, *E. xmildeanum*, which I found difficult to sort out! Ever forward and upwards, we scouted around the steeper grass areas and rocks, coming across further *E. pratense*, *Cystopteris fragilis*, some good examples of *Dryopteris oreades* and several probable *D. affinis* subsp. *paleaceolobata* seeming to mimic *D. oreades*!



photo: Paul Sharp

***Struthiopteris spicant* and *Polystichum lonchitis* in Corrie Fee**

east on a far less accessible rock-face we could see up to six stations of the *W. alpina*, best seen through binoculars. The largest station had up to 15 fronds; a great and gratifying find.

We had lunch here, admiring the views across Corrie Fee, looking through the beautiful stands of melancholy thistle (*Cirsium heterophyllum*). We carried on to the second low crag to find a thriving population of *Woodsia ilvensis* in two adjacent crevices at waist height; we counted around 127 fronds, many of them fertile.

For those of us who felt that these two latter woodsias were not quite sufficient to cap off the day there was the challenge of accessing a rock crevice to the north side of the waterfall to see *Hymenophyllum wilsonii*. After much effort, rock clambering, slipping, burn-hopping and heat generation a few of us



photo: Clive Dixon

Counting fronds of *Woodsia ilvensis* in Corrie Fee

Laurence Sutton, Sue Dockerill, Roger Golding



photo: Roger Golding

***Woodsia ilvensis* in Corrie Fee**

Rounding the corner heading towards the Fee waterfall, *Polystichum lonchitis* was found among the rock crevices, and a population of *Gymnocarpium dryopteris* under a shady crevice. We then headed north to cross the burn in sight of the waterfall (37/244749), with all our effort set on reaching the accessible low crags on the north side of Corrie Fee. On the way we encountered *Polystichum aculeatum* and *Asplenium viride*. At the first lower crag-face we were rewarded with three healthy fertile *Woodsia alpina* and several metres further

managed to view this filmy quarry before returning down to the main path back home. An added bonus for this most excellent day and inspiring location. Indeed the whole day was a fitting culmination to a wonderful week and all our thanks and gratitude are extended to Roger Golding for the enormous amount of work he had undertaken to make the whole thing happen. Even the excellent weather!

Ferns seen in Scotland, July 2019

A Monday: Glen Feshie, Geal-charn, etc.

B Tuesday: Coire Ardair

C Wednesday: Bridgend of Livet

D Wednesday: Hill of Towanreef

E Wednesday: Cove Bay

F Thursday: Glen Ey, The Colonel's Bed

G Thursday: Glenshee Ski Lift area

H Friday: Corrie Fee

	A	B	C	D	E	F	G	H
<i>Asplenium adiantum-nigrum</i> var. <i>silesiacum</i>				+				
<i>A. marinum</i>					+			
<i>A. ruta-muraria</i>			+					
<i>A. scolopendrium</i>					+			
<i>A. trichomanes</i> subsp. <i>quadrivalens</i>								+
<i>A. trichomanes</i> subsp. <i>trichomanes</i>								+
<i>A. viride</i>				+		+		+
<i>Athyrium distentifolium</i>	+	+						
<i>A. filix-femina</i>	+	+	+		+	+		+
<i>Botrychium nordicum</i>							+	
<i>Cryptogramma crispa</i>		+						
<i>Cystopteris dickieana</i>			+		+			
<i>C. fragilis</i>		+			+	+		+
<i>Diphasiastrum alpinum</i>	+	+					+	
<i>D. xissleri</i>	+							
<i>Dryopteris affinis</i>	+							+
<i>D. affinis</i> subsp. <i>paleaceolobata</i>								+
<i>D. borrieri</i>	+	+	+	+				+
<i>D. cambrensis</i>		+						+
<i>D. carthusiana</i>	+							
<i>D. dilatata</i>	+	+	+	+	+	+		+
<i>D. expansa</i>	+	+						+
<i>D. filix-mas</i>	+	+	+	+		+		+
<i>D. oreades</i>		+						+
<i>D. xambroseae</i>								?
<i>D. xdeweveri</i>	+							
<i>Equisetum arvense</i>						+		+
<i>E. fluviatile</i>				+				+
<i>E. palustre</i>							+	+
<i>E. pratense</i>								+
<i>E. sylvaticum</i>		+						+
<i>E. xmildeanum</i>								+
<i>Gymnocarpium dryopteris</i>		+				+		+
<i>Huperzia selago</i>	+	+		+			+	+
<i>Hymenophyllum wilsonii</i>								+
<i>Isoetes lacustris</i>		+						
<i>Lycopodium clavatum</i>		+				+	+	
<i>L. lagopus</i>	+							
<i>Oreopteris limbosperma</i>	+	+				+		+
<i>Phegopteris connectilis</i>	+	+				+		+
<i>Polypodium vulgare</i>	+		+			+		+
<i>Polystichum aculeatum</i>								+
<i>P. lonchitis</i>		+				+		+
<i>Pteridium aquilinum</i>	+	+						
<i>P. aquilinum</i> subsp. <i>pinetorum</i>	+							
<i>Selaginella selaginoides</i>						+	+	+
<i>Spinulum</i> (<i>Lycopodium</i>) <i>annotinum</i>	+	+					+	+
<i>Struthiopteris</i> (<i>Blechnum</i>) <i>spicant</i>	+	+		+		+		+
<i>Woodsia alpina</i>								+
<i>W. ilvensis</i>								+

GARDENS IN NORTH GERMANY – 2-11 September

Paul Ripley

(Leaders: Sabine Nittritz, Julian Reed and Pat Acock)

Monday 2nd

We arrived at our hotel in the unprepossessing outskirts of Hamburg and twelve of us introduced ourselves over dinner. Nearby was the River Elbe, and a short walk along the bank revealed not much more than two species of horsetails, *Equisetum palustre* and *E. arvense*.

Tuesday 3rd

Sabine Nittritz, Eutin

The day dawned wet, a novel experience for many of us, and remained intermittently wet throughout the day. Our first visit was to Sabine's small garden in nearby Eutin. There were some very interesting plants here: *Asplenium ceterach*, *Pellaea atropurpurea* and *Cheilanthes* species were well-grown and healthy, and there were a number of *Polystichum* and *Athyrium* varieties. We were introduced to the beautiful variety *Polystichum aculeatum* 'Zillertal'. We had a nice lunch at a farm shop close to an arm of the Baltic, before moving on.

Berndt Peters, Süderbrarup

Berndt, the doyen of German fern plantsmen and gardeners, was to join us for the remainder of the week. His garden contained so many species and varieties that it is difficult to do it justice here. It was a large, but basically flat garden in a semi-industrial area, with ferns arranged largely by genus. There was a boggy area created by a small stream, and a rock garden. Species predominated over varieties, and we were amazed by the sheer number and also their apparent hardiness in a quite hostile climate. *Microlepia strigosa*, *Polystichum lentum*, *Asplenium lyallii*, *Pteris umbrosa*, *Pyrrosia hastata*, *Deparia* (*Lunathyrium*) *pterorachis*, *Dennstaedtia davallioides*, *Polypodium hesperium*, *P. appalachiana*, *Dryopteris fragrans* and a range of *Selaginella* were just a selection. There were a few varieties such as *Polystichum setiferum* 'Laxum', and some hybrids such as *P. x bicknellii*, *Dryopteris x australis* and *Polypodium glycyrrhiza* × *P. scoleri*. An extraordinary collection, which set a high benchmark for the trip.

We went on to our next hotel, in Schleswig, for a fine meal.



photo: Julian Reed

Berndt Peters' garden

John Grundy, Remko Beuving, Filip Wauters,
Bart Hendriks, Roger Golding, Berndt Peters

Wednesday 4th – Wolfram Gassner, Sievershütten

This was another cool day, punctuated by sunny interludes but with some heavy showers from spectacular cumulo-nimbus clouds – fortunately mainly while we were at lunch or travelling.

We spent the whole day in this garden, with just a break for lunch. Wolfram is a landscape gardener, and he had moved huge quantities of soil, partly to hide the noise of the nearby road, but also in order to create landscapes such as a ‘volcanic’ bank, bogs (with *Spinulum* (*Lycopodium*) *annotinum* growing happily), drier rocky areas, and a complete moated (slug-free) island.

Wolfram has a huge collection of species, especially polystichums, and was extremely knowledgeable about their habitats and preferences. My list of photographed plants covers four pages, but highlights included *Polystichum retrosopaleaceum*, *P. setigerum*, *P. braunii* × *P. setigerum*, *P. ×bicknellii*, *P. stenophyllum*, *P. deltodon* (a very nice plant), *P. xiphophyllum*, *P. wilsonii*, and a fascinating form of *P. proliferum*. There were a number of unidentified *Polystichum* species, and a particularly fine hybrid: *P. andersonii* × *P. setiferum*. Other ferns of note were *Gymnocarpium oyamense*, *Dryopteris conjugata*, two different forms of *D. submontana*, *D. juxtaposita*, *D. arguta* and other North American *Dryopteris*, *Pentarhizidium orientale*, *Athyrium attenuatum* and *A. yokoscense*. This represents a small selection of a huge collection laid out in a wonderfully imaginative landscape.



photo: Pat Acock

Polystichum deltodon
in Wolfram Gassner's garden

We had a long drive to Bad Zwischenahn, on the shore of a large lake, where we were to stay for the next two nights.

Thursday 5th

Ingo Carstensen, Stuhr

We again managed to escape most of the rain on another cool, overcast and showery day.

Ingo has a small (0.25 hectares) garden, on sand mixed with quantities of clay and landscaped into low ‘hills’. He had a collection of polypodiums, such as variety *Polypodium cambricum* ‘Cambrian Richard Kayse’, and a colony of *Cystopteris fragilis* ‘Grandiceps’, but also many species, especially of *Polystichum*: *P. squarrosa*, *P. acutidens*, *P. retrosopaleaceum* and *P. tagawanum*. Some of his ferns, such as *Cyrtomium hookeri* and *Polystichum retrosopaleaceum* had a silver sheen, perhaps induced by minerals in the soil sourced from a mining area.

Reluctantly leaving this nice garden, we lunched at a restaurant at a nearby airfield before visiting the next garden.

Harald Dannapfel, Oldenburg

In 1979/80, Harald excavated a high bank between his garden and a railway, and built a lake, steep hills and concrete steps, all by himself, to create another world like a tropical jungle. Ferns were grown among a variety of acers, pines and rhododendrons, with a large *Catalpa*. There were some nice varieties here, such as a crested *Athyrium niponicum* ‘Pictum’, some *Polystichum setiferum* ‘Divisilobum’ and an unidentified *Polystichum* like a very nice *P. setiferum* but with a bulbil near the tip of the fronds. I photographed, among others,

Dryopteris dickinsii, *D. filix-mas* (!), and *Polystichum polyblepharum*, all grown to effect in another world. Tea, coffee and lovely home-made cakes completed another most satisfactory day.

On our return to the hotel in Bad Zwischenahn, we were delighted to find plants of *Polystichum aculeatum* 'Zillertal' awaiting us, gifts from BPS member Michael Dreisvogt of Arboretum Härle (ordered from Dutch fern breeder Wouter van Driel).



photo: Paul Ripley

***Polystichum aculeatum* 'Zillertal'**
(at Arboretum Härle)

Friday 6th – Rolf and Angelika Thiemann, Altena

We had a long drive to Altena, a town situated along the banks of a river between steep hills, and along which were many factories making steel wire (there is a wire museum in Altena).

A perfect autumn day with only a little high cloud enhanced this visit to Rolf and Angelika's lovely garden, which occupies a steep valley, lying SE/NW. It gets no sun after 20th September, and suffers cold winters and very late frosts. It also suffers the predations of wild boar and wood voles.



photo: Paul Ripley

Asplenium cuneifolium* × *A. scolopendrium
in Rolf and Angelika Thiemann's garden

Nevertheless, it seemed perfect for Rolf's predilection for hybrids, mainly experimentally produced, mostly by himself. Some were outrageous, but most were obvious targets. Examples included *Asplenium obovatum* × *A. (Camptosorus) rhizophyllum* (bulbils are produced only in the first year, like strawberries), *Polystichum* × *bicknellii* (two populations, a triploid apomict that survives well, and a less viable hexaploid sexual species), *Asplenium rhizophyllum* × *A. tutwilerae*, *A. cuneifolium* × *A. scolopendrium*, *Polystichum atkinsonii* × *P. proliferum*, *P. proliferum* × *P. setigerum*

(one of Anne Sleep's hybrids), *D.* × *brathaica*, *D.* × *sarvelae*, *D.* × *picoensis*, etc. But there were also many interesting species, such as *Dryopteris pseudofilix-mas*, *D. pacifica*, *D. pallida*, *D. campyloptera*, *D. schorapensis*, *D. amurensis*, *D. affinis* subsp. *kerryensis*, *Polypodium hesperium*, *Athyrium schimperi*, *A. palustre*, etc.

Rolf is such a mine of information, not only on species and hybrids but also on their cultivation, that we were hanging on every word. Rolf and Angelika's hospitality extended to a lunch of barbecued sausage, potato salad, lovely cakes, beer and coffee, and generous gifts of ferns for us all. An amazing visit to an amazing collection of plants set in a most attractive situation.

Saturday 7th

Christoph and Renate Rohlfs, Bonn

The rain threatened by the frontal approach the previous evening arrived overnight and had just about stopped as we reached Bitzerweg. The rest of the day was overcast and cool, with some heavy showers, especially in the afternoon, and occasional thunder.



photo: Paul Ripley

Christoph and Renate Rohlfs' garden

Roger Golding, Christoph Rohlfs, Gaston Adamek, Jürgen Schieb

vegetable, fruit and orchard habitats. They accommodate Renate and Christoph's interest in alpinists, especially dianthus and cyclamen. They have over a thousand species of plants in quite a small area, including 75 species of ferns. *Asplenium ceterach* and *A. ruta-muraria* were well-presented, and I was also struck by *Woodsia fragilis*, a crisp form of *Woodwardia unigemmata*, and well-grown cytomiums. Christoph described the garden as a collector's garden rather than an attractive one, but we found it extremely satisfying.

Arboretum Härle, Bonn

The Härle family established this garden on a seven-hectare site in 1870, but a new house was built in a Bauhaus style in the 1920s. Sadly both Härle daughters were widowed during the war, but they carried on running the garden. Before they died, in 1996 and 2000 respectively, they established a Trust to run the garden, which is private but open to the public about 20 days a year. It is run by Michael Dreisvogt, with two gardeners and volunteers. Michael had



photo: Pat Acock

Arboretum Härle

Julian Reed, Michael Dreisvogt, Roger Golding, Paul Ripley



photo: Paul Ripley

Arboretum Härle

Julian Reed with *Dryopteris filix-mas* 'Waldgold'

D. affinis 'Revolvans', *Polystichum setiferum* 'Iveryanum', 'Plumosum Druery', 'Dahlem' and 'C.B.Green', *Polypodium cambricum* 'Whilharris', 'Barrowii', 'Richard Kayse', 'Pulcherrimum Addison' and 'Omnilacerum', and *Athyrium filix-femina* 'Victoriae' and 'Gemmatum Bolton'. I was surprised to see a crested *Dryopteris carthusiana* and *D. xuliginosa*. Everywhere were treasures and fascinating species.

Across the road, the garden was younger, having been used to grow vegetables during the war, but no less interesting.

It poured with rain as we took tea under a canopy, and our hosts had prepared an apple strudel cake, beautifully iced with a fern frond. I have seldom seen a garden with so many and such interesting cultivars, and species, all in a beautiful arboretum setting. The generosity and knowledge of our hosts was impressive.



photo: Paul Ripley

Fern-decorated cake at Arboretum Härle

always had an interest in ferns, and has very good contacts with a number of gardeners and collectors, including Rosie Müller who supplied many of her plants. The Trust actively encouraged a fern collection, and, together with snowdrops and trees, a most impressive collection of species and cultivars had been amassed, principally of *Polystichum*, *Athyrium*, *Polypodium* and *Dryopteris*. The soil is quite rich, and alkaline although without limestone or chalk.

We were greeted with a lunch of salad and home-made quiche, served on fern paper, with fern cups, which we enjoyed in the company of Michael and his parents.

Michael then took us on a tour of the extensive arboretum below the house, where ferns thrived beneath specimen trees. In many ways this was a very English collection, with many well-known cultivars such as *Asplenium scolopendrium* 'Crispum Moly', *Dryopteris filix-mas* 'Bollandiae' and 'Parsley',

Sunday 8th

Klaus-Peter and Marlies Valerius, Giessen

Morning fog gave way to heavy rain on our drive to Giessen. It more or less petered out as we arrived at Klaus-Peter's house, although it remained cool and damp throughout the day.

Klaus-Peter inherited the land on which his apartment block is built, and thus was able to construct an open, public garden, building up soil and using local basalt stones. The open nature of the garden makes it prone to theft. Recently, choice rhododendrons and ferns had been targeted, but a poster by the garden noting the thief's preferences seems hopefully to have put a stop to it.

His garden, focussed on East Asian plants, mainly species, was arranged within a pleasing area intersected by wide paths underneath some mature oaks. I noted *Deparia conillii*, a *Neolepisorus* species, *Dryopteris championii*, *D. sublacera*, and a few species of *Dryopteris* that I could not identify, as well as a *strigillosum*-like *Athyrium* from Wolfram Gassner. Coffee and the ubiquitous plum crumble rounded off a visit to a completely different kind of garden.

Marburg Botanic Garden, Phillips University, Marburg



photo: Pat Acock

Neoblechnum brasiliense in Marburg Botanic Garden

sylvaticum, *Dryopteris affinis*, *D. borrieri* (foliose form) and *D. cambricum* (and maybe other subspecies if we had had time to delve further), *Athyrium distentifolium*, *Gymnocarpium robertianum*, *Phegopteris connectilis*, etc. There were also some nice cultivars, such as *Athyrium filix-femina* 'Pritchardii', and a ramose *Polystichum setiferum*.

The tropical greenhouses contained a very fine fern collection, including davallias, platyceriums, *Diplazium proliferum*, *Bolbitis*, *Aglaomorpha meyeniana*, *Asplenium daucifolium*, *Adiantum andicola* and *Elaphoglossum crinitum*, as well as the expected *Sphaeropteris* (*Cyathea*) *cooperi* and *Angiopteris evecta*. We could have spent longer here!

We dined at a steak restaurant in Siegen in the evening.

After a snack lunch at a very nice bakery just round the corner from Eichendorffring, we drove to this Botanic Garden on the outskirts of Marburg. It is reputed to have the finest collection of ferns of all the German botanic gardens. We were disappointed in the 'fern dell', as the ferns had been neglected and had suffered from the high temperatures and dry weather of the last two summers. Labelling also left much to be desired. However, many northern European species were represented, and I was impressed by *Equisetum*



photo: Paul Ripley

Diplazium proliferum in Marburg Botanic Garden

Monday 9th – Klaus-Peter and Gerd Sieber, Flörsheim/Weilbach, near Frankfurt



photo: Pat Acock

Klaus-Peter and Gerd Sieber

hybrids such as *Polystichum acrostichoides* × *P. proliferum*, and some fine varieties such as an usual crested *Coniogramme*, and a fine *Dryopteris affinis* ‘Angustata Cristata’ that was much narrower than normal. There was also a very fine *Polystichum setiferum* that was like green net curtaining.

To round off our visit to this unusual and fascinating garden, our congenial hosts provided us with a very nice barbecue and the ubiquitous cakes with coffee.

Tuesday 10th – Ingo Danielsen, Stauden Junge, Hameln



photo: Paul Ripley

Stauden Junge nursery

Through a retail park and an industrial estate lies a strip of land where two brothers, surely the happiest men on the planet, have created their own playground/paradise. Among the fantastic animals created out of scrap metal, and a ten-metre-high tower made from telegraph poles, was a rich collection of trees and shrubs (there were 50 varieties of *Ginkgo*), bamboos (Gerd has been president of the German Bamboo Society), and more recently, ferns. The brothers clearly have good contacts with fern growers/nurseries in Germany and elsewhere; we were treated to a collection of ferns of which many were new to us. The weather was damp, cool and cloudy, but fortunately dry for our visit.

Most of the ferns here were species, e.g. *Lomariocycas* (*Blechnum*) *tabularis* (hardy?), *Deparia petersenii* and *D. lancea*, *Arachniodes aristata*, *Asplenium prolongatum*, *Polystichum lepidocaulon* with extraordinary bulbiferous extensions to the fronds, and *Parablechnum wattsii*, etc. But there were also a number of



photo: Paul Ripley

***Polystichum acrostichoides* × *P. proliferum*
in Klaus-Peter and Gerd Sieber's garden**

A foggy morning gave way to a beautiful sunny day for the long drive to Hameln, outside which is this lovely nursery. Stauden Junge is a traditional nursery where most plants are raised on-site, and large, with about 20 employees. Ingo's special interest is ferns, and we were shown his stock plants as well as the plants for sale. Among expected species were many that were unusual for a fern nursery, such as *Neolepisorus truncatus*, *Selaginella prostrata* and *S. apoda*,

Dryopteris saxifraga, *D. championii*, *D. fuscipes* and *D. expansa* var. *willeana*. *D. affinis* subsp. *paleaceolobata*, grown from spores from the BPS Spore Exchange, represented Ingo's personal interest. There were also a number of interesting varieties, such as *Polystichum setiferum* 'Badford's Dwarf' and 'Congestum Coke'.

Many of us came away with, or ordered, plants, and we were also treated to a lunch of lovely cakes, home-made by Teresa, Ingo's wife. Our thanks were extended in the usual way to Teresa and Ingo, the latter joining us for a meal in the evening.

We had time to explore the historic town of Hameln, the Hamelin of the Pied Piper story (Rattfängerstadt in German) on the River Weser. In the centre of the town is a building with a facade covered in bells, and we were lucky enough to witness the music of a carillon and pipes, and a revolving tableau that depicts the story of the Pied Piper.



photo: Paul Ripley

***Dryopteris saxifraga* sporelings at Stauden Junge nursery**



photo: courtesy Paul Ripley

Stauden Junge, Hameln

Gaston Adamek, Berndt Peters, Claus Wilken, Sabine Nittritz, Pat Acock, Paul Ripley, Ingo Danielsen, Andreas Fleishmann, Julian Reed, Jürgen Schieb, Birgit Fleischmann, Lindsey Holleworth, John Grundy, Roger Golding

Wednesday 11th

Our last day dawned fine for the long drive to Hamburg. It was then time to relax, with a fascinating boat tour of the impressive harbour before returning to our hotel for a farewell dinner. We gave our hearty thanks to Sabine Nittritz, for her excellent organisation. There were times when it must have seemed like herding cats, but her organisation and timings were to perfection, and the gardens we visited were both amazing and amazingly varied.

LLANGOLLEN, DENBIGHSHIRE, NORTH WALES – 14-15 September
(Leader: Paul Ripley)

Saturday: Eglwyseg Mountain, Horseshoe Falls and Llangollen Canal Mike Canaway

Fourteen members met north-east of Llangollen at 33/2322.4833, where Paul Ripley gave us an introduction to the day. We would initially visit Eglwyseg Mountain from our current location, then travel on to Horseshoe Falls and finish the day at the Llangollen Canal. We set off, heading initially downhill towards the Offa's Dyke path. *Pteridium aquilinum* was seen beside the road, followed by *Dryopteris filix-mas* and *D. dilatata* on a steep bank. Further along, on a high stone wall at 33/2327.4787, there was a large colony of *Asplenium trichomanes* subsp. *quadrivalens* with at least 20 clumps. Leaving the road to enter a tract of coniferous woodland there were further plants of *D. dilatata*. *Struthiopteris spicant* was seen at 33/2322.4780 and *Oreopteris limbosperma* at 33/2318.4778 with *Athyrium filix-femina* also nearby. Off the path Alison Evans found *Dryopteris borreeri* at 33/2319.4780. We continued through the woodland, noting some of the common ferns seen already, but a plant resembling *D. oreades* was seen at 33/2296.4782 that caused some inconclusive debate. Passing into an area of limestone screes, large colonies of *Gymnocarpium robertianum* were observed. However, the screes were steep and unstable and the leader advised that it was easier to see the plant close-up further along. *Asplenium ruta-muraria* was seen beyond Craig Arthur at 33/2229.4693 on limestone rocks by the path along with further plants of *A. trichomanes* subsp. *quadrivalens*. Our first specimen of *Dryopteris submontana* was encountered at 33/2230.4680 and there was *Cystopteris fragilis* at the same spot.

At this point some members chose to ascend a steep gully with a stream flowing down while others chose to stay in this area to explore further. On ascent further plants of *C. fragilis* and *A. trichomanes* subsp. *quadrivalens* were seen. Climbing higher, the stream disappeared below the surface and areas of broken rock and screes were reached with more *D. submontana* and *G. robertianum* at 33/2237.4676. An area of cliffs was searched in the hope of seeing *Asplenium viride* but only further plants of *A. trichomanes* and *A. ruta-muraria* were seen; Brian Dockerill reported having seen *A. scolopendrium* nearby. Crossing onto rocky slopes near the upper part of the gully, now at about 380 metres altitude, *G. robertianum* was again found at 33/2242.4674 together with further plants of *D. submontana*. Continuing higher up to over 400 metres another cliff search was made and species already encountered were seen but still no *A. viride*. Some had lunch high up before descending to join the rest of the group prior to returning to the cars. A small party returned via the summit of the hill but did not report any new finds.



photo: Mike Canaway

Eglwyseg mountain

Dryopteris submontana with *Asplenium trichomanes* subsp. *quadrivalens*
on a small limestone outcrop

We then travelled by car to Horseshoe Falls, parking in the main car park at 33/1975.4328. Walking along the road from the car park *Pteridium aquilinum* and *Dryopteris filix-mas* were seen sporadically. Leaving the road at the National Trust sign for Coed Hyrddyn, a good plant of *Polystichum aculeatum* was seen at 33/1989.4338 with *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens* and *Dryopteris filix-mas* also nearby. Alison Evans recorded *Polypodium vulgare* at 33/1991.4388 and an interesting *Dryopteris affinis*, which may have been *D. cambrensis*, caused some debate as we continued. Walking back to view Horseshoe Falls, which were created by Thomas Telford to provide a header feed for the

Llangollen Canal, Alison Evans reported that she had seen *D. affinis* subsp. *affinis* at some point before we returned to the car park.

Not far from the car park, first a path, then a steep set of stone steps led down to the Llangollen Canal. Beside the steps at 33/1981.4323 was *D. affinis* subsp. *affinis*, with *D. borrieri* and *Asplenium scolopendrium* nearby. On reaching the canal itself, there were some very large plants of *Athyrium filix-femina*, *D. borrieri* and *D. filix-mas* not far from a tea-room that certain members seemed anxious to reach. However, it was closed to visitors for a function and caused the fern hunting to be terminated in pursuit of another tea-room. Nonetheless a red-stemmed *A. filix-femina* was observed at 33/1979.4323 and further plants of the common species were seen on both sides of the canal as well as a couple of plants of *Polystichum aculeatum*. Overall it was a very interesting day in the field with radically contrasting sites.

Sunday: Chirk

Bryan Smith

We met at the National Trust car park of Chirk Castle (33/267384) and spent the day on a circular tour, starting across parkland (with impressive longhorn cattle) to the top of Mars Wood and down Offa's Dyke path into Warren Wood, then round the edge of Gwyninger Wood through the 'Gap of the Graves' (famed for a decisive victory by the Welsh over the English in 1165) and back to the castle via Offa's Dyke proper. Unlike sunny Saturday, much of the day was spent beneath low-lying cloud with occasional damp drizzle (ideal for ferns!)



photo: courtesy Alison Evans

Chirk, Denbighshire

Paul Ripley, Bryan Smith, Christine Mullins, Gill Smith, Lindsey Holleworth, Nick Lodge, Grace & Pat Acock, Peter Blake, Mike Canaway, Tal Williams, Sue & Brian Dockerill, Alison Evans

At the start of the woods, we encountered *Dryopteris filix-mas* and *Pteridium aquilinum*, which soon led on to *Dryopteris dilatata*, *D. affinis*, *D. borrieri* and several vigorous hybrids (including possibly *D. xcomplexa*). Indeed, this area would merit a more detailed exploration by 'Dryopteris affinophiles'. Other species seen before our lunch break included *Asplenium scolopendrium*, *A. adiantum-nigrum*, *Athyrium filix-femina*, a single plant of *Struthiopteris spicant*, *Dryopteris cambrensis*, some very depauperate *D. filix-mas*, a single plant of *D. lacunosa*, *Polystichum setiferum* and *P. aculeatum* (and possibly a plant of *P. xbicknellii*). After lunch, we saw a single plant of *Asplenium trichomanes*, banks replete with more *A. adiantum-nigrum*, *A. scolopendrium*, *Polypodium vulgare*, and lush *Polystichum aculeatum* and *P. setiferum*. It was interesting to see how the different species indicated areas of distinctly different soil types. We rounded off the day with welcome tea in the castle, and for some, a visit to the castle gardens (though with no unusual ferns!)

LECTURE MEETINGS AND DAY VISITS

SPRING INDOOR MEETING: BRAMHALL LEARNING CENTRE, RHS HARLOW CARR, HARROGATE – 13 April

Mary Gibby

A large tree fern in the corner of the Jubilee Room was a great welcome to the Society's Spring Meeting and AGM. The excellent programme had been co-ordinated by Bryan Smith but sadly he and Gill couldn't attend as she had had a fall the night before.

Frank Katzer brought books for BPS Booksales, Brian and Sue Dockerill organised plant sales, with contributions from several members and, at very short notice, Michael Hayward had gathered a range of merchandise to bring to the meeting, including the new BPS publication *Fern albums* by Michael and Martin Rickard. In addition, choosing favourite entries from the Photographic Competition kept members busy. Fifty-one members and friends attended the meeting.

The talks had a common theme – reporting on travels wide and near to look at ferns. Peter Blake's theme was ferns from Sri Lanka, but he started by introducing the audience to Colonel Richard Beddome (an assistant of Hugh Cleghorn, the forest conservationist) and his *Handbook to the ferns of British India, Ceylon and the Malay Peninsula*, published in 1883 and 1892 (with supplement). The 1892 volume proved really valuable to Peter as it included excellent line drawings, e.g. of *Lindsaya cultrata* (i.e. *Lindsaea cultrata*), that helped with identification but it also gave localities in the text. Peter showed images of many ferns from the forest close to Kandy, including germinating *Tectaria* species, *Adiantum* species and large epiphytic *Aglaomorpha* (*Drynaria*) *quercifolia*, as well as many ferns that make up the large collection at Peradeniya Botanic Garden.

Sue Dockerill illustrated the successful 2018 BPS visit to gardens of members of the Dutch Fern Society in The Netherlands and Belgium, organised by Pat Acock. Harry Roskam's garden was filled with many ferns growing happily under trees, including *Dryopteris xardechensis*, alongside many well-grown cultivars. Under glass were splendid specimens of *Aglaomorpha quercifolia* and *A. rigidula*, and *Humata heterophylla* cultivated on columns of clinker. Harry is celebrated for his discovery in the French Pyrenees of the bi-generic hybrid $\times$ *Cystocarpium roskamianum*. The garden of Remko Beuving had a narrow sunken path between raised beds and a raised pond, with many small plants growing on the retaining walls. In the shady areas were species of *Coniogramme*, and *Pyrrosia polydactyla*, while in the sun *Asplenium septentrionale*, *Woodsia polystichoides*, *Cheilanthes wootonii* and *Asplenium* (*Camptosorus*) *rhizophyllum* flourished. At the Bamboo Nursery, Kimmei, ferns were in the understorey, including *Parablechnum cordatum* (*Blechnum chilense*) with distinct purple stipes. Bart Hendriks had created a woodland area for *Pteris wallichiana*, *Dryopteris xuliginosa*, *D. filix-mas* 'Linearis Crispa' and *Coniogramme* species, and grew *Polystichum xillyricum* in tufa blocks. The visitors toured the propagation area at Arboretum Bokrijk, and saw gems including *Dryopteris formosana* and *D. sieboldii*, and *Asplenium adulterinum* growing happily on a ruin. Finally, the garden of Herman de Swert featured bamboos, meandering paths, a pond and dry shade to provide habitat for variegated plants and fern cultivars.

Andrew Leonard has visited Madeira many times, and discovered new sites for many of the rarer native ferns. He started his talk with a focus on the structure of the sorus, but then moved on to a description of all the ferns, including aliens. He described the profusion of ferns beside the network of levadas, and gave many useful hints on recognition – the persistent dry fronds of *Adiantum reniforme*, *Asplenium aethiopicum* that needs a lime substrate, *Asplenium lolegnamense*, similar to *A. ceterach* but with frilly edges, *A. monanthes* looking like a venetian blind, and *Deparia petersenii*, a 'hairy alien' that is spreading on the island.

John Edgington had been travelling in Taiwan, and was helped in his fern exploration through making contact with local pteridologists, and particularly Prof. Wen-Liang Chiou. At Taipei Botanical Garden he was shown the laboratory for spore cultivation; the garden

holds a seed/spore bank of some 5,000 taxa. At the Fushan Forest Reserve south-east of Taipei he was able to stay at the field station and found *Pteris wallichiana* and *Microlepia strigosa* in the understorey, and many epiphytes including *Psilotum nudum*, *Crepidomanes auriculatum* and *C. minutum*. *Diplazium esculentum* was being collected for biochemical and genomic study. John recorded 14 different species of *Selaginella*, and *Asplenium nidus* and *Aglaiomorpha* close to a river. South-west of Taipei he explored the damp Sanmin Bat Cave, rich in *Adiantum edgeworthii*, and Xiang Tian Lake, with *Polystichum hancockii*, *Hymenophyllum badium*, *Asplenium normale*, and the endemic *A. cuneatiforme* with sprouting buds. He was also able to visit Wei-Chih Teng's four greenhouses that hold over 1,000 taxa, the greenhouses protecting the ferns against typhoons and occasional snowfall.

Fred Rumsey's President's address could have been titled *In search of Killarney ferns*. Fred began his hunt for this fern in earnest after meeting Prof. Don Farrar when he visited Britain in the 1980s; Don was the first person to recognise gametophytes of *Trichomanes speciosum*, growing close to a site for *Hymenophyllum tunbrigense*. The Killarney fern became the subject of Fred's PhD thesis in Manchester, and his first post-doctoral position at the Natural History Museum. He was thrilled to be able to share the news that sporophytes are now flourishing at Bell Bank near Bingley, the site where the fern was first recorded for Britain in 1724, but where in the early 1990s only gametophytes could be found. His surveys throughout Britain studying the distribution of the gametophyte have revealed many more surviving sporophyte colonies, and the shift to warmer and wetter conditions in the last 20 years has meant that sporophyte populations are thriving throughout the range. In Ireland, some hints of variation in morphology and in DNA content (from flow cytometry) suggest that Killarney fern may consist of more than one taxon. [See full version of Fred's talk on p. 473.]

Bruce Brown's title, *Holly fern monitoring in the Yorkshire Dales*, suggests some pleasant rambles over limestone rocks, up hill and down dale, but the reality was very different. The dedicated fern hunters were searching in winter, when much of the vegetation had died down, making the persistent fronds of *Polystichum lonchitis* much easier to spot, or at least they would have been if the weather hadn't been cloudy and icy! Changes in grazing pressure since the foot and mouth outbreak nearly twenty years ago have affected the vegetation in the hills, and the group have made a systematic survey from over the Cumbrian border at Fell End on Wild Boar Fell into the heart of the Dales. The results from Moughton Common illustrate the challenge of recording these plants, with over 200 individuals on the summit, in shallow grykes, often bitten off by grazers, but also secreted under juniper where longer fronds can develop and persist. Records were made for each plant – number of fronds, their length, number of dead fronds and presence of sori, together with a GPS reading and a photograph. And in a population of this size plants had to be flagged and mapped to be sure of accurate counts. Such care in recording meant that plants from their 2004 survey could be re-visited and changes recorded, including the good news that the number of plants had increased from 126 to a magnificent 205. Overall, most of the populations had increased in size, and this valuable recording work received resounding applause from the audience.

POLYPODIUM DAY: STOKE BLISS AND KYRE VILLAGE HALL, WORCS.

– 12 October **Martin Rickard**

In autumn polypodiums are very popular but we did not know if they were popular enough to entice members into the wilds of far west Worcestershire! They are! At least fifty-seven members and friends gathered in the village hall for a day of short talks followed by a visit to my garden.

After tea and coffee Rob Cooke explained the great difficulty of identifying *Polypodium* hybrids. Aborted sporangia can be caused by factors other than hybridity. In short the only reliable way is to examine a sample of spores under a microscope. If spores are of variable size hybridity is likely. Next up was Gert-Jan van der Kolk who discussed the use of polypodiums in garden situations with a selection of fascinating slides of gardens scattered all over the country. His talk demonstrated very well that polypodiums do make beautiful garden plants for the autumn and winter.

In a wide-ranging talk, Julian Reed discussed variation in *Polypodium vulgare* and *P. cambricum*, especially ‘Cambrian Barrowii,’ and pointed out that variation in *P. interjectum* is rare. Finally he discussed the production of bulbils on *P. vulgare* ‘Cornubiense’ cultivars. Roger Golding is valiantly tackling a full register of *Polypodium* cultivars. The aim of the exercise is to give valid names to all known cultivars – not an easy task. Roger showed us how the project was going. He hopes that it might be finished in the next year or two. It is not an overnight project!

Finally, I gave an introductory account of some of the problems with species identification overseas. For example is *P. aleuticum* from Alaska a good species? Is there any connection between the species on the sub-antarctic Kerguelen Islands and the fairly recently discovered polypods in New Zealand?

At this point lunch was taken and there was an undisciplined rush to buy ferns, particularly from Angela Tandy of Fibrex Nurseries. Many good things were acquired, polypodiums of course. I then launched my book *Polypodium cultivars and species* (BPS Special Publication no. 16). It was very gratifying that many members bought a copy unseen! That is, they had no idea what it was like until after they had bought it! So far sales are going very well. Watch this space!



photo: Bryan Smith

Martin Rickard showing members some of his polypodiums at Kyre, Worcs.

Once I had signed innumerable copies (unsigned ones may well be rarer!) we moved off to my garden one and a half miles towards Tenbury Wells. Most of the interesting cultivars were clearly labelled but I did try to point out highlights, not easy with upwards of fifty people present. Ultimately the group of enthusiasts decreased in size, many opting to look around on their own. I should add that I mainly grow polypodiums. My site is infested with fern weevil. Keeping them at bay is difficult, hence I have largely given up on other genera, preferring to concentrate on keeping my favourites, the polypods, alive.

The afternoon concluded with tea and biscuits in my house, when anyone interested was free to chat and/or browse my book collection. The day was beautifully serviced by Pat, Tina, Hazel and my daughter Catherine who all made sure that tea, coffee, food, etc. was available at the village hall and later back at my house. I am also very grateful to the four principal speakers who had all come a very long way to give their very interesting presentations.

REGIONAL MEETINGS

CORNWALL AND DEVON

Ian Bennallick

There were no meetings organised in Cornwall in 2019 just for ferns. Instead, the Botanical Cornwall Group organised fieldwork and meetings to record ALL vascular plant species present in each 'monad' (a 1 km × 1 km square on the OS British Grid) in the final year of a 20-year recording effort to produce the *New flora of Cornwall*, which should be published in 2020. The last *Flora of Cornwall* was published in 1999 and distribution maps in that Flora were by 'tetrad' (a 2 km × 2 km square on the OS British Grid). To record in every monad has been a huge effort and out of 3,964 monads in Cornwall, 3,939 now have records!



photo: Ian Bennallick

Hazards of ferning!

Fred Rumsey with curious cows at *Isoetes hixtrix* site,
Carn Barrow, Cornwall

As part of the recording process thousands of fern records have been made, with new sites for almost all commoner species (e.g. *Pteridium aquilinum* has been recorded in 3,574 monads since 1999). Special visits were made to try to find old sites of species that are restricted to specific habitats, such as *Hymenophyllum tunbrigense* (recorded in 49 monads since 1999 (46 before 2000)). The more intensive recording has also highlighted species that may have been overlooked such as *Oreopteris limbosperma* (193 monads after 1999 but only 83 before 2000). Though rare in much of East and mid-Cornwall

and with only one site in West Cornwall, it is along almost every streamside on the granite moorland of Bodmin Moor, and also colonises shaded banks along rides through conifer plantations off the granite. *Dryopteris carthusiana* may also have been overlooked as it is now found in 90 monads (55 before 2000) and *Polystichum aculeatum* is now present in 27 monads (11 before 2000, and even then there was only one record for Cornwall in 1994, the first since the 1950s). It is difficult to establish whether any ferns are 'spreading' rather than having been overlooked, but the alien fern *Azolla filiculoides* is now found in 65 monads, 20 more than were recorded before 2000.

The recording has also emphasised how some ferns, especially *Asplenium* species, are almost always found growing on man-made structures such as walls, bridges and buildings, with very few records from 'natural' sites. All populations of these are susceptible to over-zealous cleaning, weeding or complete removal of the structure. This happened to the population of *Asplenium xjacksonii* on a farmyard wall in west Cornwall: it was only rediscovered for Cornwall in 2002 after many years, only for the wall (with *A. xjacksonii*) to be pulled down in 2005!

Even though 2019 was the last year of recording for the *New flora*, all the fieldworkers are keen enough to want to continue targeting monads, though only species either new to the monad or not seen since before 2010 will be recorded. As there will also be more effort in recording rare and scarce species, and threatened habitats, more fern-specific meetings will be organised. We still haven't located *Phegopteris connectilis* at Carn Galver in West Cornwall (last seen there in 1879) despite at least two previous meetings, so it is time to try again! It is hoped that there will be at least one joint Cornwall and Devon meeting for ferns in 2020, probably based around Dartmoor again, following on from two previous successful and enjoyable trips there in September 2017 and 2018.

EAST ANGLIA

Swines Meadow Farm Nursery, Lincolnshire – 4 May

Peter Blake

(Participants: Peter Blake, Rob Cooke, Peter Grimby, Nick Lodge, Ursula Schell, Colin Small, Bryan & Gill Smith, Barrie Stevenson, Colin Ward.)

The 2019 season of East Anglia Group meetings started on a windy, wet and cold day with a short visit to Swines Meadow Farm Nursery at Market Deeping, near Peterborough, PE6 8LQ. The owner, Colin Ward, has had an interest in shade-loving plants and ferns for many years and specialises in these. He joined the BPS two years ago. Ten members of the group attended, including a new member, Ursula Schell, from the gardens at Audley End. Colin gave a talk on shade-loving plants, with a history of the provenance of many unusual plants not seen by members before. Following on from this, Peter Blake spoke on fern propagation, with an emphasis on spore culture. This prompted discussion on different techniques used by members and horticultural centres.

After a mystery fern found in a member's greenhouse had been identified (*Christella dentata*, also known as *Cyclosorus dentatus*), we had lunch and then searched through the nursery. Although not one hundred percent a pteridological meeting, the day was enjoyed.

Catfield Hall Estate, Norfolk, and Bryan and Gill Smith's garden, Suffolk – 29 June

Peter Blake

(Participants: Ashley & Jo Basil, Peter Blake, Mandy Gluth, Roger Golding, Simon & Wendy Gowan, Cornel Howells, Alan Leslie, Nick Lodge, Bryan Smith, Rosie Steele.)



photo: Bryan Smith

Dryopteris cristata on Catfield Estate, Norfolk

Struthiopteris (*Blechnum*) *spicant* was found but *D. xuliginosa* remained enigmatic. Several plants that appeared to have some characteristics of the hybrid were found but none seemed

On a glorious day, twelve members of the East Anglia Group met at Catfield Hall, near Catfield, where we had been invited by the owners, Tim and Geli Harris, to explore the fens and marshes on their Estate. This site is known as a wildlife sanctuary for many rare species of plants, birds and insects, including the swallowtail butterfly. The aim of the field trip was to find *Dryopteris cristata*, and possibly *D. xuliginosa*, the hybrid between *D. cristata* and *D. carthusiana*. Mandy Gluth had undertaken an earlier visit with Jo Parmenter of The Landscape Partnership and had marked some likely specimens with canes.

The walk to the fen took us past dykes filled with water soldier, *Stratiotes aloides*, yellow waterlily, *Nuphar lutea* and frogbit, *Hydrocharis morsus-ranae*, with *Carex remota* on the embankments. At the fen, *Dryopteris cristata* was found almost immediately, with its characteristic upright growth habit and bright green fronds. *D. carthusiana* was also in abundance as was *Osmunda regalis* and *Thelypteris palustris*. A small colony of

quite right, and the fertile fronds were all immature, thus not allowing examination of the spores. Ultimately, the group felt that it could not report a positive sighting of this rare plant.

Some group members saw a single swallowtail butterfly but apparently they were present in reduced numbers in 2019. Afterwards, our hosts treated us to drinks on the terrace of Catfield Hall where they also gave members copies of their book on the natural history of the Estate. A laser-etched perspex image of *Dryopteris cristata*, made by Ashley Basil, was presented to Tim and Geli with thanks.

In the afternoon the group assembled at the home of Bryan and Gill Smith near Lowestoft for lunch and a tour around their remarkable garden. The ferns were in fine form after some rain earlier in the month. The *Polystichum* collection was chest-high and many of the smaller ferns, not seen in last year's dry conditions, were doing well.

Michael Radley's garden and the Danesbury Fernery Project, Hertfordshire – 20 July

Peter Blake

Eleven members of the Society met at the home of Michael Radley in Hertford. Michael and his wife, Gillian, specialise in growing orchids and are judges at orchid shows both nationally and internationally. Amongst their orchids, Michael grows a few tropical ferns, some purchased or grown from spores, and some 'volunteers' in the compost in which orchids arrived from abroad. These latter ferns can be intriguing as they mature to the point where it is possible to identify them. Amongst his ferns were *Elaphoglossum crinitum*, *E. peltatum*, *Platycerium bifurcatum* and *P. superbum*, *Phlebodium* species, *Microsorium* species and many others. These were grown in a glasshouse at high humidity (achieved with a hydrofogger) and with winter heat.

After refreshments, the group moved on to the Danesbury Fernery Restoration Project at Welwyn, where we were welcomed by John Roper, Andrew Beattie, Colin Adlam and other



photo: Sarah Marsh (Friends of Danesbury Park, FODP)

Danesbury Fernery

Standing: Colin Adlam (BPS/FODP), Peter Blake, Bryan Smith, Steve Munyard,
Andrew Beattie (BPS/FODP), Nick Lodge, Michael Radley,
Margaret Nimmo-Smith, Barrie Stevenson, John Roper (FODP)

Seated: Mandy Gluth, Rosie Steele, Karen Munyard, Gill Smith, Jenny Hawkins (FODP)

members of the restoration team. This project had previously been written up in the *Pteridologist* by the group leader, John Roper (Recovering a Victorian Fernery, 2018 *Pteridologist* 6(5): 383). The progress between my visit in March 2018 and this visit was remarkable. More pathways had been discovered and excavated, the 'dropping well' was functioning and the water ran away into a cavernous circular soak-away built of brick and in remarkably good condition after more than one and a half centuries. This had been excavated in the past year. There was extensive planting of native and some North American ferns, a *Dicksonia antarctica*, and a large area of native wild-flower planting by Jenny Hawkins of the Friends of Danesbury Park. Despite being open to the public 24/7, the team reported that the only predation was by rabbits! However, despite the excellent progress made so far, it is evident that this project will run for years to return this to the status of the 'best fernery in the home counties' as recorded by *The English flower garden* in 1883.

In the afternoon the group visited the garden of Sarah Marsh, where she and her friends had prepared a huge and delicious lunch to be eaten in her very attractive garden, with a millstream, topiary holly and many beautiful flowering plants.

East Anglia Group Autumn Indoor Meeting – 9 November

Peter Blake

Eighteen members of the Society met at the home of Peter Blake and Nick Lodge. Unusually, the weather was fine, there had been no frost and there were ferns still in full-frond to see in the garden. The dry early summer and wet autumn had resulted in several planted-out tender ferns coming into frond as late as September. These included *Microlepia strigosa* and *Deparia petersenii*. The tropical and semi-tropical ferns in the conservatory attracted a lot of interest and a recent new member was very interested in the detail of growing ferns from spores.

After lunch a fern-sale took place and Gill Smith manned a merchandise stall. Amongst other items, fourteen calendars were sold, which was very gratifying as they are beautiful. Subsequent talks were given by Peter Blake on R.H. Beddome and Sri Lankan ferns, accompanied by a display of Beddome's books, and those of H.F. Macmillan, the curator behind the development of the magnificent Royal Botanical Gardens at Peradeniya near Kandy. Michael Radley spoke on ferns of Costa Rica, Bryan Smith on a recent trip to fern venues in North Wales and the BPS weekend there. Finally, Julian Reed showed us slides of the first half of the recent BPS trip to German fern gardens. These were large, tidy and very well-stocked! Highlights from the other talks included slides of Plas Cadnant Hidden Gardens, in the village of Menai Bridge on Anglesey. This garden includes a valley with a waterfall and a wide variety of ferns growing in perfect conditions. Several were hard to recognise as they were so large! This is certainly somewhere for the BPS list of gardens to visit again.

MANCHESTER AND NORTH MIDLANDS

Gallery Oldham, Greater Manchester – 6 March Mike Canaway & Alison Evans

(*Participants*: Mike Canaway (leader), Roland Ennos, Alison Evans, Yvonne Golding, Gabrielle Jarvis, Ken and Sue Seal.)

Gallery Oldham is Oldham's museum and art gallery, with the public library and learning centre sharing the same building. Natural History Curator, Patricia Francis, had kindly invited us to view the museum's herbarium material of ferns and lycophytes. There was once a 'fossil forest' where Oldham now stands and hence there is also a large fossil collection, a few of which we were able to view, as well as some early models depicting the fern life-cycle. The collections are in temporary accommodation whilst the old Museum is renovated, so there were all sorts of other interesting things to see such as taxidermy specimens of various mammals.

The main event, however, was viewing the herbarium collection, some of which Patricia had got out for us in the stores area. We had a very interesting morning looking through the herbarium sheets, which, in general, reflected the forays of naturalists from the Oldham area to Ben Lawers and other botanical hotspots as well as specimens from closer at hand. There was also a collection from New Zealand. We detected a few sheets that seemed to have been mislabelled or were otherwise in error and one of the Ben Lawers sheets labelled *Selaginella selaginoides*, collected in 1874 by an Oldham man, Squire Ashton, caught our attention. Consultation with Fred Rumsey (including photographs) suggested that it was most likely to be *S. kraussiana* that has been collected elsewhere and was probably mislabelled since the latter was not introduced into the UK until 1878. There was also



photo: Alison Evans

**Yvonne Golding cleaning a dirty album sheet
at Gallery Oldham**

an interesting fern album from New Zealand by James Morton of Invercargill. Photographs were sent to Michael Hayward who had not seen this before; after conducting further research he discovered that the man was an interesting character being both a botanist and taxidermist, eventually committing suicide, leaving a widow and ten children. Michael's summary was "The album in the collection at Oldham Museum will date from the period 1874-1876. The cover is similar to albums produced in both Dunedin and Auckland". Thank you, Michael! Patricia also showed us how to use make-up removal sponges to clean dirty album sheets!

Having worked through the specimens up to lunch-time, we thanked Patricia and headed for the museum's excellent café. Part way through ordering, the fire alarm went off and we had to evacuate the building. However, this was a minor intrusion and after lunch we were able to view the current art exhibition.

Broadbottom Fernery, Greater Manchester – Wednesday 22 May Alison Evans

Two of us met Sue Roberts, Greenspace Officer for Tameside Council, at Lymefield Garden Centre, Broadbottom, 33/996935, for a working day with the volunteers. An enormous amount of work had gone on at the fernery since our visit the previous September. The area beyond the first part of the fernery had been cleared and landscaped, creating many new planting areas. A new retaining wall on the river side of the plot already looked as though it had been there for years and had some small wall ferns in it. After a tour of the site and some



photo: Sue Roberts

Broadbottom Fernery, Greater Manchester
Anne & John Grue, Alison Evans, Henry Folkard

discussion as to what ferns would do well in each section, Henry and Alison got to work planting – the easy part really! We were delighted to see John and Anne Grue, who came for a tour of the fernery and a chat with the volunteers, before joining us in the garden centre café for lunch. We then planted the remaining ferns, but there are still plenty of spaces to fill. If you have any spare healthy hardy ferns that you could donate to the fernery, please let Mike Canaway know on ManchesterNorthMidlands@eBPS.org.uk.

Shacklow Wood and Deepdale, Derbyshire – 8 June (Leader: Henry Folkard)

Alison Evans

In a departure from usual practice, five of us met at 11a.m. in the pub in Sheldon for a coffee, before braving the rain to walk down to Little Shacklow Wood, noting *Polypodium interjectum* on the wall at 43/1768.6874. We entered the wood at the top of a valley with quite steeply sloping sides and a splendid vista down through the trees. We soon found our three very common woodland ferns: *Dryopteris dilatata*, *D. filix-mas*, and *Athyrium filix-femina* at 43/1785.6899, and then some fine



photo: Alison Evans

Fern-rich slopes in Little Shacklow Wood, Derbyshire

Henry Folkard, Roland Ennos, Yvonne Golding, Mike Canaway

plants of *Dryopteris borreri* at 43/1786.6900. A variegated plant of wild garlic, *Allium ursinum*, attracted our attention, and then *Polystichum aculeatum* appeared a little further down the valley at 43/1792.6913. We added *Asplenium scolopendrium* to our list, and then *Cystopteris fragilis* at 43/1792.6928, likely evidence of a more basic substrate further down the valley. A particular highlight was a newly flushed red-stemmed lady fern, *Athyrium filix-femina*, with flowering red campion, *Silene dioica*, growing through it, a garden-worthy combination.

We reached the bank of the River Wye and turned westwards past an old mill at 43/1821.6965, the water-wheel now empty apart from some large hart's tongue, *Asplenium scolopendrium*, and common male ferns, *Dryopteris filix-mas*, in the stonework. We also found one small *Asplenium trichomanes* subsp. *quadrivalens* with very few green pinnae, and wondered why it was not more frequent on the old stonework. A little further along we added *A. ruta-muraria* to our list, growing near to *Cystopteris fragilis* at 43/1823.6969. We followed the path westwards along the river and then into Great Shacklow Wood, stopping to eat lunch in the shelter of the trees. The woodland slopes supported a lovely display of hart's tongue, hard shield fern, *Polystichum aculeatum*, common male fern, and broad buckler fern, *Dryopteris dilatata*. The rain had stopped so we decided to walk along Deepdale rather than taking a short-cut back to Sheldon. We found some healthy-looking plants of *Asplenium trichomanes* subsp. *quadrivalens* at 43/1691.7020, and then noted spring cinquefoil, *Potentilla verna*, no longer in flower but nice to see, growing near to more *A. trichomanes* and *A. ruta-muraria*. Our walk back was brightened by many more flowering plants, and also *Gymnocarpium robertianum* at 43/1639.6983.

Saddleworth is perhaps best known for the recent moorland fires and for those with a longer memory for the moors murders committed by Ian Brady and Myra Hindley. However, from the botanical perspective it lies on the edge of the Peak District, in the area known as Dark Peak, grading down fairly steeply from the hills and moors towards the River Tame. Greenfield is one of the larger Saddleworth villages and former home of botanists L.N. Kidd and W.F. Edwards who compiled *A flora of Saddleworth* in the early 1960s (publication undated), and earlier, Dr Walter Watson (1872-1960) who collected many records in the late nineteenth and early twentieth century that were heavily referred to by Kidd and Edwards. Hence many of the records are from the Greenfield area. For botanical recording purposes Saddleworth is in vice-county 63, South-west Yorkshire. Kidd and Edwards referred to 24 species of ferns and two clubmosses and so a field day at Greenfield seemed to be a good starting point to see which species are still present and record any new ones, for example in the *Dryopteris affinis* complex.

Meeting at Friezland Riding Arena, 34/998038, we moved to a bowl-shaped clearing in the woodland nearer the main entrance where there was a trio of really fine plants of *Asplenium scolopendrium* at 34/9905.0392. Nearby were *Dryopteris dilatata* and *D. filix-mas*, and near the bank of a small stream a few metres away was *Athyrium filix-femina*. Emerging on the entrance road we then descended a steep bank to see a beautiful and architecturally symmetrical plant of *D. affinis* subsp. *affinis* at 34/9912.0395 with more *D. dilatata* and *D. filix-mas* close at hand. To the south of this, a short distance away was a good colony of *Equisetum telmateia* (of which there was an even larger colony – about ten by five metres – on private land beside the A635 near the riding arena entrance at 34/9918.0395). Heading towards the riding arena once more, behind a fence was a specimen of red-stemmed *Athyrium filix-femina* at 34/9895.0390. Opposite the arena itself, just where mown grassland gave way to the woodland edge, was an area of *Equisetum sylvaticum* and near this, beneath a birch, was a fine plant of *Dryopteris cambrensis* subsp. *cambrensis* (conf. Alison Evans). Crossing the riding arena car park and then exiting onto the Pennine Bridleway extension there was our first plant of *Polystichum setiferum* at the foot of an old elder tree. Walking in the direction of Mossley initially, then crossing the main A635, we headed up the marked public footpath through woodland where there were further stands of ferns, mainly *Dryopteris dilatata*, and bordering a field, *Pteridium aquilinum*. Emerging into a boggy field near 34/9875.0356 we saw a couple of plants of



photo: Mike Canaway

***Asplenium adiantum-nigrum* on a wall
near Greenfield, Greater Manchester**

Oreopteris limbosperma, a small plant of *Struthiopteris spicant*, and further plants of *Athyrium filix-femina* and *Dryopteris dilatata*. After retreating to the woodland for lunch we returned to the A635 before taking the bridleway towards Mossley and seeing *Equisetum arvense* together with good examples of the ferns seen previously including *Dryopteris affinis* subsp. *affinis* and *Polystichum setiferum*. Returning along the road we noted a number of plants of *Asplenium adiantum-nigrum* on a high wall at 34/9818.0347, as well as *A. ruta-muraria*.

Irrespective of recent taxonomic changes, no *Dryopteris affinis* was recorded in the *Flora of Saddleworth* so these were useful records, particularly the *D. cambrensis* subsp. *cambrensis*. Somewhat surprisingly, *Asplenium adiantum-nigrum* was also not in the Flora although it is in the vice-county 63 records for Saddleworth and I have seen it several times, so maybe it has increased in recent years. All in all it was an interesting and pleasant field day for the two of us that attended – James Hall and me. James is the team leader for woodlands at the new Royal Horticultural Society (RHS) Bridgewater complex due to open to the public in 2020. Our meeting led to Alison Evans and me visiting the construction site and Alison making another visit to collect *D. affinis* for further study. Furthermore, we have planned a field visit and indoor visit to Bridgewater in 2020, hopefully strengthening our collaboration with the RHS in northern England.

Tissington Trail, Derbyshire– *Dryopteris submontana* monitoring – 27 July

Mike Canaway

In Britain *Dryopteris submontana* (rigid buckler-fern) is almost completely confined to limestone habitats in the Yorkshire Dales and South Cumbria where it can, on occasion, reach a dominant status. However, there are small outlying populations in Wales and Derbyshire as per the population on Eglwyseg Mountain reported elsewhere in this issue. One of these populations lies on the Tissington Trail, which follows the line of a disused railway. The London and Northwestern Railway between Buxton and Ashbourne first opened in 1899 and following its closure 70 years later, the Peak District National Park acquired it in 1971 and converted it into a traffic-free route for cyclists and walkers, now the Tissington Trail, which runs for 13 miles from Parsley Hay in the north to Ashbourne at its southern point. Some of the cuttings provide ideal habitats for ferns and it is in one of these that there is a small *D. submontana* population. In view of its local rarity and small population size one of the aims of the group is to monitor this periodically. The most recent survey was reported by John Grue in the *Bulletin* for 2015 when 16 plants were recorded, 15 of which were in the main colony and one plant on the opposite (east) side of the cutting (Yvonne Golding pers. comm.); in 2009, 15 plants were recorded.

Meeting at the layby-style parking area at 43/156563 on the A515 Buxton Road, south of Newhaven, leader Alison Evans gave an introduction to the day before we crossed the busy road to the entrance of the Tissington Trail, and headed in a north-westerly direction. First of all we noticed many plants of *Dryopteris filix-mas* scattered along the trail and on adjacent limestone cliffs. Our first plant of *Asplenium*



photo: Chris Evans

Tissington trail, Derbyshire

Ken & Sue Seal, Mike Canaway, Helen Ball, Alison Evans

trichomanes subsp. *quadrialeans* was seen at 43/1606.5763, growing in a limestone crevice with a further large colony nearby, and a single plant of *A. scolopendrium* under a slight overhang. Two large plants of *A. ruta-muraria* were seen at 43/1610.5778 and *A. adiantum-nigrum* on both sides of the trail near 43/1613.5780.

It began to rain heavily and with dense, low cloud and cliffs on both sides our GPS readings became inaccurate and notebooks got wet. That said, we did reach the *D. submontana* population, finding a good plant in a limestone crack at 43/1614.5786 and two new plants nearby. In total six new plants were recorded. The single plant previously noted on the opposite side had become overgrown with ivy. *D. borrieri* was seen at 43/1615.5788 and *Asplenium ceterach* was recorded, as a new record for the site, in a crack behind an ash tree at 43/1614.5787. Having looked for further plants we returned to the starting point, now drenched, and went to a pub for refreshments only to find that we had coincided with a massive charity walk, so progress was exceedingly slow. I think that in view of the location it might be better to revert to measuring the plants from a fixed reference point rather than depending on GPS whose accuracy can rely on terrain and weather as in this case. Hopefully we can re-visit in better weather conditions.



photo: Mike Canaway

***Dryopteris submontana* at Tissington trail,
Derbyshire**

In summary, we now have 19 or 20 plants at this site, six new plants being recorded and the plant on the east side being lost. There was a question mark over one of the plants in the main colony (referred to as plant 2 in Alison Evans' photographic record) due to the adverse weather conditions. Overall, this site seems to be in good condition with numbers of plants increasing, and mitigates the loss of plants at the Monsal Trail site searched by several members of the group without success. It would be a useful monitoring exercise to visit all the known Derbyshire *D. submontana* sites and produce a complete update on its population.

Fern planting at Jodrell Bank, Macclesfield, Cheshire – 25 September

Yvonne Golding

Our BPS connection with Jodrell Bank began back in 2012 when, at the invitation of Head Gardener Becky Burns, we worked with Jodrell volunteer gardeners to start a small fern garden using spare ferns donated by BPS members. In 2017 we visited again and expanded the fern bed using ferns purchased from Neil Timm's nursery with a small BPS grant. On the current (third) visit, we assessed our original planting to see what had survived and what had done particularly well. We found that the areas next to the path were heavily trampled as a result of the site being open daily and having occasional concerts, but the ferns on the small stumperies we had built and those near the back of the border had stood up better to this. So our next plan of action was to plant very large robust specimens including native *Polystichum* and *Dryopteris* (rescued from a now defunct bed at Thwaite Botanic Garden) near to the back of the border. Keeping the path area clear, we planted other ferns in groups and added suitable smaller ferns to the stumpery. We will return next year to see how this has worked. Becky had organised a permanent display board (which has survived well) about the fern bed and advertising the BPS's contribution.

In addition to the stumpery bed we also helped to clear a good area on the banks of a nearby pond, which also involved the removal of a small tree! On our last visit we had noticed that a large *Osmunda* was well established by this pond. Coincidentally Matt Busby had kindly donated some large royal ferns for planting at Thwaite, which were split and some planted on our cleared bank at Jodrell. They looked really good in their new home and will be admired every day by visitors passing on a nearby path. To protect the new planting (and to stop folk jumping in the pond!) a 'dead hedge' was constructed using the dead tree and all the vegetation we had stripped from the pond side. Many thanks to BPS members Alison Evans, Henry Folkard, Mike Canaway and Roland Ennos, Becky and Phil from Jodrell plus their team of volunteers and to Matt for his generous gift. This was a most satisfying and rewarding day.

MIDLANDS

Winterbourne Botanic Garden, University of Birmingham, Edgbaston –

2 June

Matt Busby

It had been a number of years since the Midlands Group visited Birmingham University's botanic garden, Winterbourne. I have visited Winterbourne for many years as both a horticultural student and family visitor but I was not prepared for many of the changes that had occurred in recent years. I was certainly pleased to find that car parking is free and that the entrance to the gardens is now via Winterbourne House, originally the family home of the Birmingham Industrialist, Hugh Nettlefold.

The 'History of the Rose' garden had disappeared and been replaced with perennial plantings. The old fern and orchid house had been revamped, mainly to house a collection of orchids and cycads. Originally the inside wall of this ancient lean-to glasshouse was dressed in tufa stone, which provided a home for many tropical ferns and flowering plants but the entire wall had been stripped of every vestige of tufa. It is hard to describe the delightful charm that this small greenhouse once possessed and that has now been lost.



photo: Matt Busby

Winterbourne Botanic Garden, University of Birmingham

Olive Mason, Val Ogden, Peter Grimby, Mark Morgan, Sue Grimby, Alan Ogden

The area behind the greenhouse was once occupied by a small fern border that was planted with various hardy ferns, notably *Asplenium scolopendrium* forms including 'Golden Queen'. The area had been refurbished with flowering plants. We moved on to the rockery, which, we were pleased to note, remained much the same and we were particularly pleased to see *Gymnocarpium dryopteris* still flourishing there.

The group next visited the site of the BPS Centenary Fern Border, organised, planted and maintained by Ray and Brenda Smith and Margaret Collins in 1990. This only lasted about four years because sadly the entire collection was washed away by a mini tsunami resulting from a very heavy storm that caused a cascade of water from the tennis courts of the adjacent grammar school.

Few ferns were noted in the rest of the garden. *Matteuccia struthiopteris* and two poorly crested *Athyrium filix-femina* were close to the centenary border. A few *Asplenium scolopendrium* were noted on the rockery and large and somewhat ancient *Osmunda regalis* were in the wood close to the lake's edge. On our route back to the house we noted a plant of *Dryopteris affinis* 'Cristata'. No other ferns were encountered.

Alan Ogden's kind offer of a cream tea moved us all swiftly back to the tea rooms. My thanks to Alan and Val Ogden, Peter and Sue Grimbly, Olive Mason and Mark Morgan for braving what might have been a very wet afternoon.

Matt Busby's Garden, Canley, Coventry – Sunday 22 September Matt Busby

For our second meeting of the year I was so looking forward to welcoming local members to my garden, though aware that my little patch is no longer as attractive as it used to be. My advancing years prevent me from maintaining the garden as it deserves and a spell in hospital during the hottest days of August resulted in damage to ferns in pots due to lack of watering. Nevertheless, it is always a joy for me to spend time with my fern-loving friends. I was able to offer them one or two plants from my collection knowing that they were going to good homes and it repays in some small way the many times I have benefited from plants from other members' gardens.



photo: Matt Busby

***Asplenium scolopendrium* Muricatum Group on tufa in Matt Busby's garden**

The one good feature I was able to draw my guests' attention to was the colonisation of a large piece of tufa stone by a form of *Asplenium scolopendrium* Muricatum Group. Surprisingly it appeared quite naturally some ten years ago and has continued each year to produce more prothalli and sporelings on the host stone and other nearby pieces of tufa. I endeavour to keep a photographic record of their development. The average frond size of the original plant is now 17.5 x 2.0 centimetres. The establishment of ferns on tufa stone is something I have not witnessed before and I would be most grateful if other members would contact me if they have seen ferns established on tufa. I have begun trying to encourage

other ferns to take up residence by sowing various spores on the tufa. It will be interesting to note which ferns prove amenable to it.

My thanks to Alan Ogden, Peter Grimbly, Mark Morgan and Malcolm and Linda Hancock for their company and to Linda Hancock and Christine Kilborn for helping with the refreshments.

NORTH WALES

David G. Hill

Unfortunately, family commitments this year left little time for field visits. However, discovery of a severely damaged *Lycopodiella inundata* site in July forced me to get out and work, mostly in atrocious conditions, with Robbie Blackhall-Miles and the National Trust to try to salvage and cultivate specimens. The complexities of obtaining permissions to work in a protected site, with a plant that does its best to resist cultivation, under far from ideal conditions has been an experience. 'Touch wood' we are getting there but it is too early to predict results.

Boduan Sanctuary Wood, Llŷn Peninsula – 7 September

In September, Vanessa Griffiths and I ran a 'Learn to Identify Ferns' workshop on the Llŷn Peninsula. Boduan Sanctuary Wood (23/3339 & 3239) is managed by the Eternal Forest Trust, and this private woodland site turned out to be an ideal venue, with a dozen learners, a lot of ferns and perfect weather. The woodland had been purchased from the Forestry Commission (as was) and is now a site for natural burials, but has probably always been under tree cover in one way or another. The species list was not extensive, but was perfect for teaching purposes. It included *Asplenium adiantum-nigrum*, a beautifully bifurcated



photo: Vanessa Griffiths

David Hill teaching fern identification on the Llŷn Peninsula

A. scolopendrium, *Athyrium filix-femina*, *Cystopteris fragilis*, *Dryopteris affinis* s.s., *D. borrieri*, *D. dilatata*, *Polypodium vulgare* s.s., *Pteridium aquilinum* with its fungus *Rhopoglyphus filicinus*, and finally *Struthiopteris* (*Blechnum*) *spicant*. A nice surprise was an old goat willow tree covered with the pretty little lichen *Normandina pulchella*, not rare, but only the second record for that ten-kilometre square, the last record being in 1960.



photo: David Hill

Bifurcating *Asplenium scolopendrium* in Boduan Sanctuary Wood, Llŷn Peninsula

NORTH-WEST

Barf and Bassenthwaite woodlands, Lake District National Park – 8 June

Bruce Brown

It had been nine years since Mike Porter showed us *Asplenium septentrionale* growing on the crags below the Bishop of Barf on a BPS meeting back in 2010, so a good reason to return, particularly when coupled with an invitation to call in for a cup of tea with Sarah Campion at Castle Hill, Bassenthwaite, afterwards. Unfortunately the weather gods were not on our side and the forecast day of rain meant that only the determined Robert Sykes and Roger Golding joined Bruce Brown at the Powter How car park on the west side of Bassenthwaite Lake (35/220265). And so it was a day in full waterproofs although as a slight consolation the rain was not too heavy for much of the time.

The Bishop rock is regularly given a coat of white paint, so stands out clearly on the craggy hillside above. A steep but short climb up a path through slaty scree revealed *Cryptogramma crispa*, in its element here, along with some *Dryopteris affinis*, *D. cambrensis*, *Polypodium vulgare* and *Asplenium trichomanes* subsp. *quadrivalens*. Just under the Bishop we traversed carefully along the crag base where the rock becomes more crumbly and must release just the right kind of minerals that *A. septentrionale* likes. Three plants were noted along with *A. adiantum-nigrum* and *A. trichomanes* subsp. *trichomanes* (confirmed microscopically on an earlier recce). Then through his binoculars Roger spotted more likely plants further along the crag. There turned out to be another three, making a total of six ‘septentrionales’, so it is obviously still doing well here.



photo: Bruce Brown

Asplenium septentrionale on crags
below the Bishop of Barf, Cumbria

We descended towards Thornthwaite through woodland and along a minor road, noting common species such as *Dryopteris dilatata*, *D. filix-mas*, *Athyrium filix-femina* and *Pteridium aquilinum*, and Robert found the first *Oreopteris limbosperma* of the day. Everywhere there were masses of *D. affinis* agg. in all their fresh green-fronded glory. Exactly which ones they were was often confusing, but many were subsp. *affinis* and subsp. *paleaceolobata*, along with some *D. borrieri* and *D. cambrensis*. Roger eyed up two strange-looking plants with hybrid possibilities, but had to return later in the season to eventually sort them out. One was determined to be the pentaploid hybrid of *D. cambrensis* × *D. filix-mas* (*D. ×convoluta* nothosubsp. *occidentalis*) and the other the tetraploid hybrid of *D. affinis* subsp. *paleaceolobata* × *D. filix-mas* (*D. ×complexa* nothosubsp. *contorta*).

A forest track was taken, which climbed into the plantation above Thornthwaite village. Quite a proportion of the trees had undergone recent felling, enabling us to enjoy good views over to Keswick and Skiddaw. We reached a bridge over Comb Beck for lunch (35/216249). *Struthiopteris spicant* was added to our tally and a lovely spot by the beck-side had splendid colonies of *Phegopteris connectilis* and *Gymnocarpium dryopteris* alongside a gnarled old tree covered in *Polypodium vulgare*.

Descending down the path into Thornthwaite village we passed an old mine adit adorned with *Asplenium scolopendrium*, and so back to Powter How. We moved on to Woodend Brow car park (35/218276) and explored north along the old road for a while, adding *A. ruta-muraria* on a mortared wall. Of more interest were the polypodies – a road-side crag had a good colony of *Polypodium xmantoniae*, and further along on a wall top was *P. interjectum*. Time now to move on to Castle Hill where we were greeted by Sarah who gave us a garden tour round her late husband Peter's fern collection, all in excellent form and obviously well looked after. Tea and cakes were much enjoyed, and it was a pity that there were not more of us to do them full justice, but many thanks Sarah.

Merseyside – 29 June

Southport Fernery

Alison Evans

Fifteen of us met in the Churchtown Botanic Gardens Fernery on a sunny morning. Sandra Cain told us about the history of this region, from the monks who inhabited the area in the twelfth century and built embankments and eel pools, to the setting up of the 'Southport and Churchtown Botanic Gardens' in 1874. The Fernery and the Conservatory in front of it opened in 1876, when the Fernery was planted with 'oriental and tropical plants, flowers, palm trees, ferns, figs, orange trees, creepers and blooms'. The conservatory became unsafe and was demolished in 1938, but the Fernery has survived, with some mixed fortunes. A major refurbishment in 2007/2008 saw many new plantings of ferns, but as time went on budget cuts meant that these could not be maintained, and by 2017 many areas were over-run by weeds and invasive perennials. In August 2017 a partnership was formed between



photo: Ruth Pearce

Southport Fernery

Joan Huyton, Alison Evans, Sandra Cain, Jimmy Chubb, Robert Sykes, John Wantling,
Barrie Stevenson, Robert Scott, Ann Haskins, Trevor Pearce, Terry Hackwill,
Gary Mawdsley, Paul Evans, Michael Hayward

the Botanic Gardens Community Association and the BPS, with the aim of restoring the planting and providing ongoing maintenance. Since then, gifts of ferns from the Royal Botanic Garden Edinburgh, Glasgow Botanic Gardens and BPS members have enabled us to stock the Fernery with a wide range of fern species, as well as orchids, climbers, epiphyllums, schlumbergeras and other exotic plants. Volunteers have put in a huge amount of work clearing weeds, improving the soil, planting, watering and restoring the water features.

After Sandra's talk we spent the rest of the morning viewing the ferns, including *Angiopteris evecta*, *Dicksonia blumei*, *Cibotium schiedii*, *C. glaucum*, *C. menziesii*, several species of *Blechnum* and a range of tree ferns. Several group members then availed themselves of the café next door before moving on to Michael Hayward's garden for the afternoon.

Michael Hayward's garden, Blundellsands, Liverpool

Robert Sykes

Michael had a complaint: apparently the last report of a visit to his garden asserted that it was nothing but ferns. It certainly is not. He seems to live in a favoured corner and grows many other tender-ish plants as well, some known to me but many not. They included three beautiful abutilons, in flower when we were there, yuccas, agaves, not only present, but clearly liking it and doing well, as was his extensive collection of ferns. Many of us have the odd *Woodwardia unigemmata* and wonder whether it will survive the winter; Michael had a bed full of them looking magnificent. He had a range of equisetums, *Todea barbara*, *Thyrsopteris elegans*, *Araiostegia perdurans*, handsome dicksonias (and many other ferns) growing out of doors. Sheltered housing was full of good things including *Adiantum hispidulum* and a beautiful *Asplenium bulbiferum* hybrid called 'Maori Princess'. A moist warm cabinet contained two filmy ferns, *Leptopteris superba* and *L. hymenophylloides*, both looking splendid. There were masses of sporelings in propagation – where are they all going to go, Michael?

I asked him one of those silly questions – which fern was his favourite? The surprising answer was *Marattia salicifolia*, which I had not even seen. It was in his conservatory – a magnificent plant, both beautiful and enormous. He is wondering whether the time may have come to pass it on to a good home with more room – any takers?

All this, and tea and cakes too, jointly provided by Michael and Alison. Thank you both for a wonderful day.

Garden at Serpentine Woods, Queen's Road, Kendal – 20 July

Robert Sykes

This is the garden that Richard Wrigley wrote about in *Pteridologist* Vol. 6 Part 6 pages 465 and 475. It is (almost certainly) the garden in which George Whitwell grew his ferns. He was the founder Secretary of the British Pteridological Society and was a redoubtable searcher for varieties. He lists, for example, 15 finds of *Oreopteris limbosperma* in the third edition of *Ferns of the English Lake Country* (1893), which he edited. Apparently he grew all these on. I don't know if they grew in this garden, a very alkaline place; it feels surprising – it is not an easy species to grow at the best of times.

Terry Parr has led the rescue of Whitwell's garden from ivy and oblivion, and he told the remarkable story at our AGM in 2018. When it came to talking of the programme several people said they wanted to come and see it. Sadly only four turned up on the day, which did scant justice to Terry's preparations. The garden is maturing fast: it includes a section of native ferns and their varieties that Whitwell might have grown, and a surrounding area where the Kendal Conservation Volunteers have planted other ferns. Come and see it when you are in Kendal – it is worth a visit.

We then wandered up through the Serpentine Woods, which were planted in the nineteenth century for the benefit of the citizens of Kendal. For the most part there were not many ferns, but a north-facing limestone crag was generously covered with *Asplenium scolopendrium*. There were also a

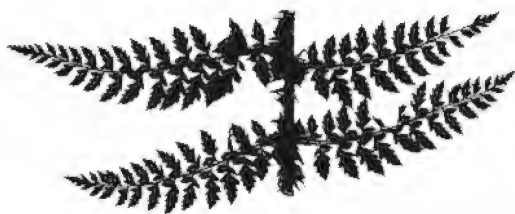


photo: Robert Sykes

Part of frond from a tripinnate *Polystichum setiferum* from Serpentine Woods, Kendal

few *A. trichomanes* subsp. *quadrialeans* and *Polystichum aculeatum*, and an attractive, though not particularly strong-growing, tripinnate *P. setiferum*. I like to think that this is a sporeling from Whitwell's collection.

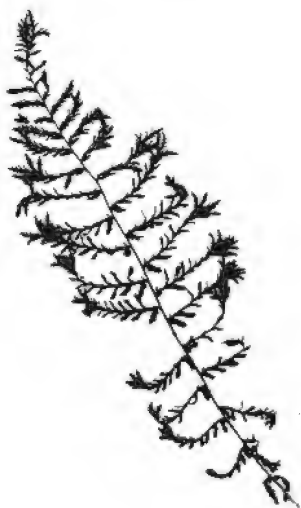


photo: Robert Sykes

Frond of *Dryopteris filix-mas* 'Linearis Polydactyla' from the Kettlewell, Kendal

We went on to 'the Kettlewell' (34/504933), a quarry above Kendal that furnished much of the stone from which 'the old grey town' was built. For the most part we were seeing the same ferns, but the surprise in a scruffy spot close together were a *Dryopteris filix-mas* 'Linearis Polydactyla' and a beautifully crisped form of *Asplenium scolopendrium*. Heaven knows how they got there. *Polypodium interjectum* was growing luxuriantly on the trees and we found a few small plants of *Cystopteris fragilis* in a crack on the crag (where I rock-climbed in the early 1970s when the main Lake District crags were out of bounds with foot and mouth disease).

Glencoyne Woods, Glenridding, Cumbria – 24 August

Trevor Lowis

Warm sunny weather and Ullswater on a Bank Holiday equals busy. After some initial parking difficulties we embarked on the first part of our investigations, following a small stream into Glencoyne Woods at 35/3870.1791.

Once 20 metres uphill we had completely escaped the throng and encountered our first fern of the day, *Dryopteris borreii* at 35/3871.1789. Several examples of this very variable fern were examined over the course of our walk, with discussions on the difference between morphotype 'insolens' and *Dryopteris lacunosa*. A possible example of the latter was noted later at 35/3863.1785. Next up for examination was *D. oreades*, the mountain male fern, in its more lax woodland form at 35/3871.1789. Growing almost to the lakeside as it does on the shores of Thirlmere it is typically much more numerous at this location than the common male fern, *D. filix-mas*. Later in the day we examined a particularly foliose form of this taxon at 35/3851.1792. Initially collected in late autumn 2018, much head-scratching was now allayed by the discovery in the spring of glands on the indusia of emerging fronds, a characteristic of *D. oreades*.

The path uphill followed a garden boundary and several escapees were noted. Of particular interest was the ostrich fern, *Matteuccia struthiopteris*, which had established a small colony. Moving on up we recorded *Athyrium filix-femina*, *Oreopteris limbosperma*, *Phegopteris connectilis* and *Polypodium vulgare*.

Lunch was taken amongst colonies of bracken, *Pteridium aquilinum*, and *Dryopteris affinis* subsp. *affinis*, with good specimens of *D. affinis* subsp. *paleaceolobata* and *D. cambrensis* nearby. We next studied a group of several plants of *D. affinis* morphotype 'convexa' at 35/3851.1781 that showed a strong correspondence with Ken Trewren's descriptions of this form. Crossing a wall we passed through vigorous colonies of *D. cambrensis* and mature crowns of *D. affinis* subsp. *paleaceolobata* as we headed uphill toward some small scree fields.

Eventually we were rewarded with fine views of Ullswater and a further three taxa. Hard fern, *Struthiopteris spicant*, and parsley fern, *Cryptogramma crista*, were scattered amongst the acid screes and under a large boulder was the less recorded *Asplenium trichomanes* subsp. *trichomanes* at 35/3853.1766. Spore size had been previously checked by the author and confirmed by Roger Golding with spore and stomata checks.

A return to the lake-shore path added to our list for the day. *Asplenium ceterach* was growing in the lime-rich mortar of the road retaining wall alongside the lake at 35/3872.1791, and *Polypodium interjectum* and *Asplenium scolopendrium* were also colonising this man-made habitat. A single specimen of the soft shield fern, *Polystichum setiferum*, was noted at 35/3875.1776, not a commonly recorded species in the central lakes and a new record for this tetrad.

Finally Roger Golding led us to view a splendid crested form of *Dryopteris filix-mas* that he had spotted some years earlier, bringing our tally for the day to 22 including forms and morphotypes. The Atlantic oakwoods of the Lake District are a precious habitat, and superb hunting grounds for pteridologists with perhaps many discoveries still to be made.



photo: Laurence Sutton

Lunch spot, Glencoyne Woods, Ullswater

Roger Golding, Ben Taylor, Bruce Brown, Clive Dixon (*obsured*), Alison Evans, Carmen Horner, Robert Sykes, Trevor Lewis

Indoor Meeting & AGM, Holehird, South Cumbria – 19 October Robert Sykes

Twenty-three members and guests enjoyed this annual indoor meeting.

Fred Rumsey talked with his hallmark wit and scientific precision about *Dryopteris submontana*, which we in the North West regard rather proprietorially because of its rarity elsewhere and its relative abundance on our limestone, and *D. cristata*, which is rarer, but shares the characteristic of occurring in one area, the Norfolk Broads, and being mainly absent from the rest of the country.

Roger Golding discussed the *Dryopteris affinis* aggregate in Cumbria. The analysis of the various forms is a recent and developing art, so it is perhaps unsurprising that he was able considerably to develop the distribution maps, notwithstanding that he has recently moved here and has been much preoccupied with work on his house and garden. There is still much to be done.

Robert Sykes and Ann Haskins were re-elected as Secretary and Treasurer of the Group. The competitions were won by Robert Crawford and Michael Hayward.

SCOTLAND

Ascog Hall Fernery, Isle of Bute – 27 April

Bridget Laue

This was our fifth annual spring visit to the Isle of Bute, where we try to assist Michael and Karin Burke in maintaining their fern collection in the restored Victorian fernery at Ascog Hall. This year our party included Andy Ensoll, the renowned fern grower and expert from the Royal Botanic Garden Edinburgh, who had originally supplied a number of the plants at Ascog. While most of us set to work on the perennial task of removing liverwort and mind-your-own-business from the rock surfaces, Andy moved around the fernery inspecting the health of the plants and removing dead fronds.

For lunch, we ‘picnicked’ indoors, with tea, coffee, cakes and pastries supplied by Karin. Then, after a quick tour of the gardens, we returned to work in the fernery. Michael and Andy conferred over the problem of a *Dicksonia antarctica* whose fronds were threatening the roof. This fine plant occupied a prominent position, greeting visitors as they descend into the fernery. The surprising conclusion was that it had to go! Andy duly removed the fronds, before Michael took a chainsaw to the trunk, close to its base. It should be possible to replant this trunk in the surrounding garden, where there are already a number of other tree ferns. The plan is that its position in the fernery will be taken by a *Sphaeropteris* (*Cyathea*) *medullaris*, the black trunk of which should provide an even more spectacular sight.



photo: Paul Sharp

Ascog Fernery, Isle of Bute

Frank McGavigan, Michael and Karin Burke, Nox (*in front*), Janey Floyd, Liza Downie, Tim Godfrey, Heather McHaffie, Bridget Laue, Thomas Shriver (*in front*), Maurice Wilkins, Hazel France, Andy Ensoll

All too soon, we had to pack up to return to Rothesay for the ferry back to the mainland. As ever, we had enjoyed trying to help out, and we were grateful to the Burkes for their hospitality. If you have never been to the Ascog Fernery, put it on your to-do list!

Fossil Grove, Glasgow – 1 June

Andy MacGregor

(Participants: Ellie Coull, Liza Downie, Richard East, Janey Floyd, Tim Godfrey, Andy MacGregor (leader), Chris Nicholson, Maurice Wilkins.)

Ours was an unusual excursion, aimed not at finding ferns but planting them for other people to find – part of a project to create an outdoor fernery at Fossil Grove. Located in a corner of Glasgow's Victoria Park, the Fossil Grove is a cluster of 300-million-year-old Carboniferous tree stumps uncovered by excavations in the late 1800s and shortly thereafter protected *in situ* by a small building. Strictly speaking, the fossils are casts of the trunk bases and roots of *Lepidodendron* scale trees, often referred to as 'tree horsetails' although their nearest living relatives are the quillworts. The building has become somewhat neglected in recent years, but plans are afoot to renovate or possibly replace it, and so improve the care and profile of this natural wonder. Allied to these planned improvements, community group the Friends of Victoria Park (FoVP) have been working to restore the 'quarry' behind the Fossil Grove. This area of crags and rock passages was artfully created by the Victorians from the remains of the former quarry, and was designed and planted to provide a fashionably picturesque setting for Fossil Grove itself.



photo: Richard East

Fossil Grove, Glasgow

What was once a well-tended and horticulturally pleasing area of landscaping has in recent years become decidedly unkempt for want of resources and manpower. FoVP's vision is to return it to its former glory, and indeed to make it better than ever, by filling it with ferns! The idea is to complement the pteridophyte interest of the fossils, and also reflect the Victorian heritage of the site, mindful of the fern craze sweeping society at that time. The outdoor fernery was wholly the vision of FoVP, masterminded by Richard East who contacted the BPS at an early stage to get advice on species choice and help with planning and planting. FoVP duly secured funding for a first phase of planting, the bulk of which was spent on suitably hardy ferns, and the remainder on planting tools and compost. On the appointed day, a total of nearly 20 people helped out, including eight BPS members. Over six hours or so of intense effort, we cleared ground and planted over 600 ferns and horsetails of approximately 20 species or varieties, selected to suit a range of available planting sites and aspects, all the way from a pond to crags and rock ledges.

Over the coming months, the establishment of the new plants will be monitored and further planting and maintenance undertaken as required. FoVP plan to publicise the fernery with a website and leaflet describing the project and recording the species layout. These will be brought to life with illustrations of the ferns by Ellie Coull, who is undertaking the project as part of her training in botanical illustration at RBGE. Watch this space!

Loch Brandy in Glen Clova, Angus – 22 June

Paul Ripley

(Participants: Clive Dixon, John Edgington, Roger Golding, Michael Hutchinson, Bridget Laue, Theo Loizou, Steve Munyard (leader), Myles O'Reilly, Paul Ripley, Paul Sharp.)

Ten of us met at the Milton of Clova car park, by the Glen Clova Hotel (37/326730), on a day that started full of promise but turned grey and breezy as we headed north on the Glen Esk track towards Loch Brandy (37/3375). Among our number was Theo Loizou, the BSBI Recorder for Angus.



photo: Paul Sharp

Dryopteris cambrensis in Glen Clova

On the track to the loch *Dryopteris* species were abundant, and we spent some time under the guidance of Roger Golding establishing the features of *D. cambrensis*, easily the commonest here of the *D. affinis* group. Roger pointed out the characteristic broad chaffy scales taken from the very base of the stipe among the narrower more typically lanceolate scales. We also saw *D. filix-mas*, *D. borrieri* and *D. affinis* subsp. *affinis* and *paleaceolobata*, none particularly abundant. *Struthiopteris* (*Blechnum*) *spicant*, *Oreopteris limbosperma*, *Athyrium filix-femina*, *Dryopteris dilatata* and *Pteridium aquilinum* were common.

We explored the steep slopes and screes on the eastern side of the loch. As usual, others found far more taxa than I did, but I was delighted to find *Gymnocarpium dryopteris*, and eventually a single plant of *Polystichum lonchitis*, its young fronds only just beginning to unroll. We (others mainly!) found *Huperzia selago* (Roger took a

specimen to check whether it might be subsp. *arctica*; it wasn't), *Phegopteris connectilis*, *Diphasiastrum alpinum*, *Cryptogramma crisa*, *Athyrium distentifolium*, *Dryopteris expansa*, *Cystopteris fragilis*, *Lycopodium clavatum*, *Equisetum sylvaticum* and *Selaginella selaginoides*. The presence of *Cystopteris* and *P. lonchitis* attests to the veins of limestone or calcite within the predominantly acid rock. *Isoetes* has been reported from the loch, but we did not see it. Theo showed me downy willow, *Salix lapponum*, unusually right by the water's edge, and the rare alpine mouse-ear, *Cerastium alpinum*. We do not see a lot of mountain ferns on the Romney Marsh, so I was particularly delighted to see mountain male fern, *Dryopteris oreades*, growing abundantly on the steeper grassy slopes. The plants were uniformly quite small, but with its pale green young fronds, crimped, slightly spathulate pinnules and whitish scales, it was very distinctive. The abundance of this plant, and Steve's comments about the lushness of the vegetation compared with earlier visits, suggests that this area has been much less grazed than previously.

Equisetum palustre was seen back at the car park before the excellent day was rounded off with tea at the Glen Clova hotel. Thank you Steve, for leading us to such an interesting place, to Bridget Laue for excellent organisation, and to Roger and others for their expertise.

Creag nan Eun, East Perthshire, and Glenshee, Aberdeenshire – 17 August

Bridget Laue

When leaving the Glenshee Ski Centre after our meeting the previous year (*BPS Bulletin* 2018, page 424), Clive Dixon had noticed the interesting slopes below Creag nan Eun, and later suggested that we could have a trip to explore the area in 2019. It being just five days after the ‘Glorious Twelfth’, Clive had checked with the local estate that we would not be encroaching on their grouse shooting. Reassured, we met at a layby on the A93, close to where the road crosses the Allt a’ Choire Dhirich (37/133754). Venturing up the hillside, we first came across *Struthiopteris* (*Blechnum*) *spicant* and *Oreopteris limbosperma*. Dark clouds rolled in from the south, but after a heavy shower the sun re-emerged and we soon dried out. In the meantime, we had recorded 14 more species of ferns, the most attractive of which* were *Gymnocarpium dryopteris*, *Phegopteris connectilis*, *Cryptogramma crispera* and *Asplenium viride*, as well as three species of horsetails (*Equisetum arvense*, *E. palustre* and *E. sylvaticum*) and two lycophytes (*Lycopodium clavatum* and *Selaginella selaginoides*).

But Clive was on a mission. He had come across BSBI records of *Polystichum xillyricum* on these slopes, but the locations given were either imprecise or rather old, so the hunt was on. We found many spots where the two parents (*P. aculeatum* and *P. lonchitis*) were growing close together and inspected possible hybrids but most were not clear-cut. Much time was spent inspecting the best candidate, and Clive later confirmed that it indeed had abortive spores.

After a picnic lunch, we crossed to the east side of the A93 to explore the burn in search of *Equisetum variegatum*. We eventually found a few plants growing in the water, with a small clump of *Huperzia selago* a little further upstream. Then, since two members of our group had not previously seen it, we could not resist the temptation to re-visit the slope immediately behind the Glenshee Ski Centre. We found the expected four species of clubmosses (*Lycopodium clavatum*, *Spinulum* (*Lycopodium*) *annotinum*, *Huperzia selago* and *Diphasiastrum alpinum*) looking well, but the *Selaginella* and moonwort, *Botrychium nordicum*, had gone over since our visit as part of the National meeting only a month earlier. Satisfied with our tally of taxa, we retired to the Ski Centre Tea Shop.



photo: Paul Sharp

At the Glenshee Ski Centre

Clive Dixon, Liza Downie, Michael Hutchinson, Bridget Laue,
Stuart Maxwell, Myles O'Reilly

* [The other species seen were *Asplenium ruta-muraria*, *A. trichomanes*, *Athyrium filix-femina*, *Cystopteris fragilis*, *Dryopteris cambrensis*, *D. dilatata*, *D. filix-mas*, *Polypodium vulgare*, *Polystichum aculeatum* and *P. lonchitis*.]

Muirburn, Biggar, Lanarkshire – 28 September

Liza Downie

(Participants: Richard Aird, Liza Downie, Janet and Adrian Dyer, Roland Ennos, Tim Godfrey, Yvonne Golding, Michael Hutchinson, Frank Katzer, Bridget Laue, Heather McHaffie, Caro Penney, Paul Sharp, Thomas Shriver, Cameron Tasker, Steve Taylor, Maurice Wilkins.)

It is always a pleasure to visit Frank Katzer's house in the Scottish Borders. The last Scottish meeting of the year, our annual indoor meeting, always involves ferns and food and the turnout was good. Before we got indoors we were looking at plants that had been donated for sale, many folk rapidly filling shopping bags and car boots with delightful ferns. Inside, in the garden room, we were greeted with a stunning array of ferns as houseplants including *Davallia*, *Microsorium*, *Platyserium*, *Blechnum* and *Phlebodium*, carefully set among orchids and a lemon tree.

After coffee, Frank took us on a tour of his garden. It was intended to be arranged taxonomically, but some ferns had moved themselves about, blurring the categories. There were many varieties and cultivars of *Polystichum*, *Dryopteris*, *Blechnum*, etc., plus ferns unknown to several of us including *Hypolepis millefolium* and *Pseudophegopteris*. The garden must be at an altitude of about 300 metres, but this does not seem to be a problem. Apart from ferns, there was a beautiful orchard, herbaceous plants and a woodland garden 'in progress'. Frank is lucky enough to have four greenhouses, one dedicated entirely to spore propagation, while the others, reflecting Frank's catholic tastes again, contained a wide range of ferns many of which were unknown to me. A few pelargoniums had sneaked in too.



photo: Paul Sharp

Polypodium cambricum 'Cambrian Richard Kayse' in Frank Katzer's garden

After a splendid lunch prepared by Frank and Steve, Cameron Tasker, who until very recently was in charge of the fern house at RBGE, talked about the ferns at all four of the Edinburgh Botanic Garden sites. His wide-ranging talk covered frost protection, latest thoughts on pest control, watering, feeding and pruning. Cameron is on his way to Australia for a year and we wish him well. Next we watched a DVD called *The secret life of ferns* produced by the University of Auckland. This 15-minute film covers the fern life-cycle and we agreed that it was the best film that we had seen on this topic. It is available to watch at: <https://www.youtube.com/watch?v=4aJqQj4TMSk&t=743s>.

Tea and home baking followed and then we got down to business. We produced a list of possible excursions for 2020, though I am sure that Bridget Laue is still open to suggestions. Perhaps it is the food that makes this meeting a popular one, but it is always nice to catch up with old friends and make new ones in such a relaxing environment.

SOUTH-EAST

Warnham LNR and Leechpool Woods, Horsham, West Sussex – 4 May

Peter Clare

Ten of us met in the car park of Warnham Local Nature Reserve (RH12 2RA, 51/167323), owned and managed by Horsham District Council. The reserve was once part of a large estate and is centred around a disused millpond. It has various habitats including meadow, marsh, broad-leaved and mixed woodland. We set out from the Café and entrance area and crossed the meadow beside the millpond, soon coming to a very wet area that was thickly colonised by *Equisetum fluviatile* and home to marsh frogs and several species of dragonfly. The area was crossed by a wooden walkway and we proceeded to a shaded area beside the millpond, where some old fallen tree trunks supported colonies of *Polypodium*, both *P. interjectum* and *P. vulgare*. On our 'recce', Julian suspected that one of the colonies was *P. xmantoniae*, but on this visit the shrivelled fronds made identification even more difficult!

We made our way to one of the two boardwalks that traverse the silted-up northern end of the millpond, noting on our way a couple of ditches in which were *Asplenium scolopendrium*, *Dryopteris filix-mas* and *Polystichum setiferum*. To the left of the first boardwalk was a big clump of *Polypodium vulgare* growing in the crown of a large pollarded willow. On closer examination Julian pointed out several sporelings growing just below the main colony. Further along we found another polypod growing in a smaller pollard; this time it was *P. interjectum*.



photo: Lara Lopez

South-East members examining polypodiums on willow stumps in Warnham Local Nature Reserve, Horsham

Paul Ripley, Pat Acock, Lindsey Holleworth, Terry Hackwill, Julian Reed

We left the walkway, noting *Athyrium filix-femina* and *Dryopteris filix-mas* and proceeded up a steep pathway to Plantation Walk, a wide level path through the top of the woodland on the north side of the millpond. We noted *Dryopteris affinis*, *D. borrieri*, *D. dilatata*, *D. filix-mas*, *Polystichum aculeatum* and *P. setiferum*.

We returned to the main buildings, where we enjoyed our packed lunches whilst watching 'Nest-box cam' showing us newly hatched great tits being looked after by their parents, and 'Heron cam' revealing a young heron in its nest; to me it looked very Pterodactyl-like, especially when I learned it had just eaten its two siblings! Afterwards we explored a small woodland area of the reserve known as Walnut Tree Plantation, finding *Asplenium scolopendrium*, *Dryopteris dilatata*, *D. filix-mas* and *D. carthusiana*.

We then drove across Horsham to our next venue, Leechpool Woods nature reserve (RH13 6SG, 51/194314), also managed by Horsham District Council. We walked along a wide, sunny track bordered by swathes of bluebells as we proceeded to a ditch that ran alongside another path into the wood. This ditch (51/198316) was not only home to *Asplenium scolopendrium*, *Struthiopteris* (*Blechnum*) *spicant*, *Dryopteris borrieri*, *D. carthusiana*, *Polystichum aculeatum*, *P. setiferum*, including two divisilobums, and a possible candidate for *P. x bicknellii*, but also some feral Asiatics: a *Cyrtomium* (species yet to be determined), *Dryopteris cycadina*, *D. erythrosora*, *Polystichum polyblepharum* and *P. tsus-simense*. *P. polyblepharum* was the dominant fern in this alien assemblage, with young plants occurring down most of the length of the ditch. It was amazing to see all these plants growing ‘cheek-by-jowl’ in the same site, and Pat Acock remarked that he had never seen anything like it, either here or in Europe. Of course we all speculated as to the origins of this curious assemblage as it was obvious that they had not been planted. To the west of the ditch are some houses, albeit separated by about 50 metres of woodland, and on our ‘recce’ Julian and I had peered over the garden fences to see if we could ascertain the source, but could not see any suspects; maybe the culprits were hiding on some balcony areas above us. However they got there, our foreign visitors certainly provided a most interesting and stimulating conclusion to a great day’s ferning.

Royal Botanic Gardens, Kew, Richmond, Surrey – 8 June

Pat Acock

Twenty-three members of the South-East and East Anglia Regional Groups met Alice Taylor at the Victoria Gate. Alice is our new contact in the Lower Nursery and she led us to a side gate along Kew Road. Once inside, Alice was introduced and she outlined the day.

Our first stop was the Lower Nursery. Alice gave a brief introduction, and then answered our questions on cultivation and about the ferns as we explored the Lower Nursery’s temperate house. There were a large number of *Equisetum*, *Pteris* and *Davallia* along with *Psilotum nudum*, water ferns, *Aglaomorpha* (now including *Drynaria*) and *Diplazium*. We moved on to the tropical section, where there were so many delights. Many people were distracted by the collection of selaginellas; the intense red one was stunning and there were many cultivars, some variegated. The many large *Angiopteris evecta* caught my eye. There were a number of *Anemia* species, and a sizeable *Lygodium circinnatum* coiled up the wires. Whether epiphytes, ground-dwellers or climbers, all the ferns looked magnificently grown and cared for. Many polypodiaceous ferns suspended on wires and grown on blocks of cork or tree fern fragments covered a whole wall. I nearly missed two ant ferns (*Lecanopteris*) suspended on another wall, picture perfect on their blocks of wood, the fronds fully open and the crusty rhizomes, where the defending ants lived, in perfect condition and in this species a lovely blue colour.



photo: Bryan Smith

Lower Nursery, RBG Kew

Julian Reed and Alice Taylor looking at an impressive *Goniophlebium subauriculatum*, with a *Selaginella* in the foreground

Outside in the corridor Alice gave a demonstration of her method of spore-sowing and took many more questions.

After a break for lunch we were taken to the Princess of Wales Conservatory. Inside the main door were some lovely ferns. In the lower beds many of the older ferns were fighting for space with *Adiantum formosanum*, a favourite. Upstairs in the main fern areas the plants were growing at least as well as when John Woodhams first set up the house, and were so well-tended that space was becoming a premium, with many of the smaller ferns such as *Tectaria zeilanica* (*Quercifilix zeylanica*) and *Asplenium oceanum* being shaded out. Here the aglaomorphas were very well-developed and covered the rocks originally placed there for them. Cibotiums and adiantums were looking luxurious. Downstairs the ancient *Sadleria cyatheoides* was looking fine, so that those who had not seen it over the decades were unaware of how various moves had unsettled it. *Marattia* and *Lophosoria quadripinnata* were growing very well, giving the area a tropical feel with many small and medium ferns growing well together below the larger ferns.



photo: Andrew Leonard

Near Princess of Wales Conservatory, RBG Kew

Ashley Basil, Karen Munyard, Gill Smith, Andrea Adlam, Nick Lodge, Bryan Smith, Nic Ferriday, Peter Blake, Steve Munyard, Colin Adlam, Jude Lawton, Michael Hill, Lara Lopez, Craig Nelson, Alice Taylor, Pat Acock, Jo Basil, Julian Reed, Terry Hackwill, Lindsey Holleworth, Paul Ripley, Kath Farrel, Jennifer Ide

Outside we saw a few ferns, noting that more were becoming established in the shady area beneath the outside wall that runs along Kew Road.

In the newly restored Temperate House, epiphytes such as *Zealandia pustulata* (*Phymatosorus diversifolius* / *Microsorium pustulatum*) colonised trunks in the *Dicksonia antarctica* grove, and terrestrial ferns such as *Cyrtomium fortunei* were growing in the shade. It is to be hoped that ferns that are more in keeping with the other plants and regions represented in the newly restored house can be sourced or grown, and the colonising British and weedy ferns taken out.

We thanked Alice, and Ashley Basil presented her with a clear acrylic plaque laser-cut with an image of a fern gametophyte. We were pleased to welcome a number of new members, some with their partners, and hope they join us on other meetings.

Riverhill Himalayan Gardens, Sevenoaks, and Kemsing, Kent – 19 October

Peter Clare

Twenty-one members and guests met at Riverhill Himalayan Gardens, the home of the Rogers family for almost 180 years. The South-East group last visited the site shortly after it had been devastated by the October 1987 hurricane. The garden has since been redeveloped and we were particularly keen to see what was once a derelict alpine rock-garden, which had recently been replanted as a fern garden. In 2018 Julian Reed and I were approached by the head gardener, Mr Adam Roberts, for advice on the feasibility of repurposing the rock garden as a fern garden. We arranged a site visit and offered suggestions for suitable plants and help with procurement and planting.

We were all kindly given free admission and a hot drink and cake in the café. Heading out into the garden we passed through the Rose Walk, noting *Dryopteris filix-mas* and *Polystichum setiferum*. In the walled garden, with its striking modern water-feature, a number of plants of *Adiantum capillus-veneris* had established in the mortar joints of the rear wall of what was once a Victorian lean-to greenhouse. We followed the path toward the Camellia Glade, passing *Asplenium adiantum-nigrum* and *A. scolopendrium* in the low retaining wall of the Primrose Meadow.

Near the descent into the Rock Garden a steep bank had been planted with *Polystichum setiferum* Divisilobum Group cultivars. A rock outcrop was planted with *Polypodium cambricum* cultivars and *Austroblechnum penna-marina*, and a much lower area had mainly *Athyrium filix-femina* cultivars and *A. niponicum* 'Pictum', but also *Dryopteris erythrosora* and *D. lepidopoda*. The newly re-lined pool, fed by a rocky stream, was now home to *Osmunda regalis* 'Purpurascens'. Behind this, a very high and steep bank with tiered ranks of large sandstone blocks, naturally colonised by big plants of *Asplenium scolopendrium* and *Polystichum setiferum*, made an impressive backdrop. We clambered up a very steep path to the top of the rock garden, noting forms of *Dryopteris affinis* and *D. filix-mas*, and rejoined those of the group who had elected to reach the summit by a less arduous route!

Karen Munyard spotted a peregrine falcon as we passed specimen rhododendrons and magnolias on our way to the Hillside Path, our route back to the entrance. We noticed a big clump of a very upright form of *Dryopteris filix-mas*, and then a curious *Dryopteris* with possible leanings toward *D. erythrosora*. Further on, over a fence to our left, Mark Border spotted a variant of *D. filix-mas* with pinnae slightly curving backwards, giving the impression that they were narrower. Lower down was a steep bank with a stone retaining wall that supported *Asplenium scolopendrium*, *Dryopteris filix-mas* and *Polystichum setiferum*; the *Polystichum* had a distinct look about it, almost Riverhill's own form.

At the Sir Mark Collet Pavilion in Kemsing we were treated to a hot lunch, generously provided by Julian and Margaret Reed. Pat Acock and Ashley Basil then regaled us with accounts of their recent fern exploits. Pat spoke about relationships in *Polystichum*, aided by a chart that Heather Driscoll presented at the *Polystichum* mini-symposium at Kew (see *Bulletin* 6(4): 286). He then gave us an illustrated talk on his trip to Singapore. He had visited the botanic garden, and took the opportunity to remind us of the work that the late Professor Eric Holttum carried out there before he retired to Kew.

Ashley talked about his recent travels in Brittany with Jo. They visited Le Jardin Exotique de Roscoff, where various *Cyathea* species, *Lophosoria quadripinnata* and *Woodwardia radicans* all grew outside just 50 metres from the sea. The high point of the trip was meeting Jean Yves Lesouef, founder and former director of Jardin du Conservatoire Botanique Nationale de Brest, who gave them a guided tour behind-the-scenes. Ashley had mentioned that they were hoping to see *Anogramma leptophylla*, and Jean took them to a newly discovered site just outside the Brest garden. They also visited an *Anogramma* site outside Saint-Pol-de-Leon that Rémy Prelli had told them about, where 10,000 young plants were found!

We then visited Julian's allotment in the village of Seal, just south of Kemsing. We were able to inspect part of his collection of *Polystichum* cultivars, growing under the shelter of a commercial quality shade tunnel. We all know they are hardy, but to see them responding to that extra bit of care was an eye-opener! Julian then invited us all to see his back garden, where he has amassed an impressive collection of fern species and cultivars, especially *Polypodium*, in the ground, in two greenhouses and also on top of the shed roof!

It was a very interesting and enjoyable day, and our thanks are due to the Rogers family for their generosity, Adam Roberts for allowing us to access a private part of the garden, Pat and Ashley for their talks and to Julian and Margaret for their kind hospitality.

SOUTH WALES AND THE BORDERS

Morlais Castle and Taf Fechan river, Glamorgan – 20 June

Sue Dockerill

Six members met outside the Aberglais Inn, a few miles north-east of Merthyr Tydfil (32/044097). For the morning our aim was to climb the nearby hill with Morlais Castle at the top and see if we could re-find the plants of *Botrychium lunaria* that Brian and I had found there last year. We descended to the Taf Fechan river and crossed it by an old stone bridge over a series of waterfalls known as Blue Pool. On the way down we saw plenty of ferns – *Pteridium aquilinum* and *Dryopteris filix-mas*, both of which we were to see everywhere we went, plus plentiful *Asplenium trichomanes* subsp. *quadrivalens* and *Polypodium interjectum* on a retaining wall by the road. Down by the bridge there was also *Athyrium filix-femina* and *Polystichum aculeatum* (again, ferns we were to see frequently elsewhere) and climbing up beyond the river we also found several large *Dryopteris affinis*, one of the few groups of this that we were to see during the visit.

Climbing further we reached one of the many limestone quarries that eat into the side of Morlais Hill and in times gone by fed the huge blast-furnaces in Merthyr Tydfil. Now they are mostly used for training would-be mountaineers and there was a group of these there during our passage through. Of more interest to us was the *Asplenium ruta-muraria* that had managed to colonise the sheer rock-faces left from the quarrying. Up beyond the quarries we reached the remains of the ramparts of the castle, on the banks of which we had previously found the *Botrychium*. Sadly, there was much less of it this year, but we did find around six plants, most of which were fertile (32/049097). Also, in limestone boulder-screes around the castle, were *Asplenium viride*, *Cystopteris fragilis* and *Gymnocarpium robertianum*, along with species already seen lower down. Surprisingly, given the alkaline nature of the underlying rock, we also found our first *Dryopteris dilatata*.



photo: Sue Dockerill

Pont Sarn railway viaduct, Cwm Taf Fechan

Martin Rickard, Claire Jenkins, Brian Dockerill, Susan Lewis and,
photographing the placard on the viaduct, Christine Mullins

We descended back to the quarries, but rather than retracing our steps, we headed a short way east through woodland, before going back down to the Taf Fechan at a small footbridge. In this wooded area new finds were *Dryopteris borreeri* and *Phegopteris connectilis*, the latter particularly pleasing as we had not seen it on previous visits. Crossing

the river, we walked downstream, back westwards again towards the road bridge at Blue Pool. This is a lovely stretch of river with many tufa outcrops studded with *Asplenium scolopendrium* and *A. trichomanes*, and vast stands of *Equisetum telmateia*. Passing under the huge Pont Sarn railway viaduct (now a cycle and walking trail), we regained the road and made our way back to the Aberglais Inn for lunch.

We spent the afternoon exploring the Taf Fechan river further downstream from Blue Pool. A footbridge on the outskirts of Merthyr Tydfil allows you to make a circular walk, and we followed the southern bank on the outward journey and the more northern one for our return. Again, this is a lovely stretch of river, in this case often in a rocky gorge. We saw a lot of the ferns seen previously, and added *Oreopteris limbosperma*, *Struthiopteris spicant* and a single *Polystichum setiferum* to our morning's tally. All in all it was an interesting day in an area that is surprisingly beautiful considering its heavy industrial past.

Tim Brock's Garden and Llanerchaeron, Ceridigion – 27 July Brian Dockerill

After parking at the bottom of the lane to Tim's house near Tregaron, we started the steep climb, passing several of the common ferns typical of the area. We knew, however, that we were approaching our goal when a large, prominently crested *Asplenium scolopendrium* was seen in the hedge bank. Tim has a huge collection of hart's tongue cultivars and has been exceptionally active in creating new forms by deliberate crosses.

After welcome refreshments we started our garden tour in a terraced area, where I was delighted to see, amongst the many aspleniums, a wide range of other ferns including some remarkably good forms of *Polystichum setiferum*. Inevitably, however, the aspleniums were the stars of the show; there were too many to name here, but a crested *Asplenium scolopendrium* 'Crispum Christopher Lloyd' stood out, while *A. scolopendrium* 'Transverso-cristatum' contained many of the possible variations in just one plant. When the local Group last visited Tim, five years previously, he had only lived there for three years. He has made considerable developments since, most notably setting up a shade tunnel, where he modestly mentioned that the "scollies were growing rather better". Not only was this a significant understatement but, amongst good examples of all the known forms, we could see the results of his development of new cultivars, notably with the



photo: Pete Gwynne

In Tim Brock's house

Marian Goody, Tim Brock, Martin Rickard, Christine Mullins,
Sue & Brian Dockerill, Joy Neal, Roger Golding, Alison Newby,
Tim Newby, Monica & (hidden) Simon Lloyd Williams

variation called 'Peraferens' where the central leaf vein extends into a terminal projection. This was seen in its most extreme in the plant he has called 'Hydra', where the projection accounted for about a quarter of the length of the leaf.

Our host's generous hospitality ended with the provision of lunch cooked for us by Tim's partner, Pete.

From here we drove to the National Trust Garden at Llanerchaeron. The Head Gardener, Tim Newby, had joined us in the morning and was kind enough to show us around the garden. The exact age of the fern borders is unknown, but several features suggested a considerable history. Native ferns were of an exceptional size, with very well-developed 'trunks', and elsewhere in the garden were *Polystichum aculeatum* that had reached a large size, presumably self-sown from plants originally planted in the garden. Following this theme, in the walled garden Tim was developing a collection of *Polystichum* species. I am always interested in the management techniques in such gardens and Tim described one that was completely new to me. He planted in threes, often a design technique, but in this case to help enthusiastic but untrained volunteers to distinguish planted species when tidying the borders.

After welcome refreshments we visited the woodland across the river from the house and car park. This proved to be a very ferny location where we were to find *Asplenium scolopendrium*, *Athyrium filix-femina*, *Struthiopteris spicant*, *Dryopteris affinis*, *D. affinis* subsp. *paleaceolobata*, *D. borrieri*, *D. dilatata*, *D. filix-mas*, *Polypodium interjectum*, *Polystichum setiferum* and *Pteridium aquilinum*.

Thus with grateful thanks to our hosts Tim Brock, Pete Gwynne and Tim Newby we ended a very enjoyable day, two contrasting great gardens and a quiet walk in the woods.

Trosersch Woods and Susan Lewis's Garden, Carmarthenshire – 23 August

Brian Dockerill

In 2014, a BPS National Meeting was held based in Brecon, South Wales, which included a successful visit to these woods and garden. Few local members were there that day, so we decided to repeat the programme and on this occasion were pleased to welcome nine local members to the meeting.

We met just north of Llangennech in the village of Allt, parking by the roadside adjacent to the start of the footpath at 22/557025. Setting off in light drizzle, almost immediately we saw *Equisetum arvense* and, as we crossed a river bridge, *Polystichum setiferum*. After a short walk following the river alongside fields we entered the woods where the range of ferns increased enormously and we had soon recorded *Asplenium scolopendrium*, *Athyrium filix-femina*, *Struthiopteris spicant*, *Dryopteris affinis*, *D. borrieri*, *D. dilatata*, *D. filix-mas*, *Polystichum setiferum* and *Pteridium aquilinum*. After some discussion it was concluded that another plant was probably *Dryopteris ×critica*. Polypodiums were plentiful, and both *Polypodium interjectum* and *P. vulgare* were seen, in one case side by side on one tree!

Along this humid riverside valley we later saw our hoped-for *Dryopteris aemula*, both on the cliffs on the further bank and near at hand, permitting those new to this species to compare it with the plentiful nearby *D. dilatata*. After crossing the river to continue above it on the western side and adding *Asplenium trichomanes* subsp. *quadrivalens* to our list, we finally scrambled down to locate the colonies of *Hymenophyllum tunbrigense* seen on the National Meeting (22/547043), and noting this time several accompanying plants of *Dryopteris aemula*. After a welcome lunch break, we followed the easier, albeit less fern-rich, footpaths on this side of the river, then crossing it to re-join our outward path beside the fields.

We arrived at Susan Lewis's house near Ammanford to be welcomed by her and several of her friends ready with fresh pots of tea, exactly what was wanted! Those of us who had visited before knew the treat awaiting us outside, but others were unprepared for the range and sheer size of the ferns, no doubt helped by the high water-table underlying the garden

and the shade provided by several large apple trees. There were some splendid *Polystichum setiferum* varieties and a lovely patch of *Polypodium scolieri* just coming into growth. In a wetter patch there was an interesting selection of *Osmunda* species and cultivars, looking very good despite the dry weather earlier in the year.

There was also colour aplenty, as Susan has a very large collection of *Hydrangea*. Many were at the very peak of their flowering and, like the ferns, of very considerable size. Finally, we were invited back indoors for hot drinks and as much cake as we could consume, before thanking Susan for her hospitality and heading back to our homes.

WESSEX

New Forest, Hampshire – 21 September

Steve Munyard

(Participants: Pat Acock, Jo and Ashley Basil, Andrew Leonard, Jane Markovic, Karen and Steve Munyard, David Pearce, Mike Rowe.)

Eight members of the Wessex and South-East Groups met with Mike Rowe from the Hampshire Flora Group at Ashley and Jo Basil's garden in Boldre (40/3180.9865). We explored the fascinating garden, plastic tunnels and greenhouse whilst enjoying hot drinks.

We walked up Royden Lane, going north away from Boldre village. The following species were recorded growing on the roadside banks: *Polystichum setiferum*, *Pteridium aquilinum*, *Dryopteris filix-mas*, *Asplenium adiantum-nigrum*, *A. scolopendrium*, *Athyrium filix-femina*, *Dryopteris dilatata* and *D. affinis*. We turned right into a meadow, where *Polypodium interjectum* occurred on the bank and *Equisetum palustre* grew in a damp area. We crossed the meadow to the footbridge over Lymington River, noting a wasps' nest that had been dug out by badgers; the workers were busy repairing the damage.

We then entered Roydon Woods Nature Reserve, which is managed by the Hampshire and Isle of Wight Wildlife Trust. Many fern species were noted: *Dryopteris borreeri*, *Equisetum telmateia*, *Asplenium scolopendrium*, *Dryopteris affinis*, *Polystichum setiferum*, *Dryopteris carthusiana*, *D. dilatata*, *Pteridium aquilinum* and *Athyrium filix-femina*. Passing out of the wood we proceeded down Rodlease Lane towards Boldre village, adding *Polypodium vulgare* to our list. We crossed Boldre Bridge (40/3199.9846), noting *Asplenium adiantum-nigrum* in the mortar between the bricks. It was interesting to see shoals of grey mullet feeding in the river and a grass snake swimming across to the bank. Sporing bracken was seen on the roadside.

We returned to the house for lunch and continued exploring the garden, admiring many well grown unusual ferns.

In the afternoon we drove to Setley Pond car park (40/302992) to visit an area of *Sphagnum* bog (40/2980.9935) that supports *Lycopodiella inundata*. A number of plants were seen.

We next drove to Lyndhurst (41/298.084) to visit an area of heathland restoration. We crossed the A337 and traversed the golf course heading for Rushpole Wood (41/307093). A number of trees had been felled in this area to aid heathland regeneration. We saw our first *Struthiopteris* (*Blechnum*) *spicant* of the trip, along with *Athyrium filix-femina*, *Pteridium aquilinum* and a number of *Osmunda regalis*. These appeared to be regenerating, though numbers were thought to be fewer than the previous year. They were all suffering due to the lack of rain in recent weeks.

Our last site for the day was Shave Wood car park (41/293121). We walked down through the wood to the roadside bank of the A337. This is the well-known site for *Equisetum xbowmanii* and the colony was doing well. Other ferns recorded were *Pteridium aquilinum*, *Athyrium filix-femina* and a *Polypodium* on tree branches.

We would all like to thank Jo and Ashley for an interesting and well-organised meeting.

YORKSHIRE FERN GROUP

Introduction

Barry Wright

I'm not sure how it happened, but it seems as though we've generated within our local group a compelling interest for fern monitoring. It may stem from 2009 when I sowed the spores, starting with moonwort monitoring on the Grinton to Redmire road verges. If so, it may have taken a while for the idea to germinate and grow, but they've now passed the gametophyte stage and are pushing up the first little fronds! We now have co-ordinators looking at a range of species from my original moonwort (me) to now include *Woodsia ilvensis* (Laurence Sutton at the Teesdale introduction sites), *Polystichum lonchitis* (Bruce Brown), *Osmunda regalis* and *Asplenium marinum* (Yvonne Golding), *Vandenboschia speciosa* (Jesse Tregale and Steve Hindle) and the translocation work we do on *Pilularia globulifera* (me). In addition, at our AGM we suggested monitoring *Asplenium xclermontiae* (Yvonne Golding and me) at the Northumberland station as we both trundle past there frequently. I am now interested in the *Dryopteris aemula* in at least Scar Wood (see below) in the North York Moors (me). I feel that monitoring of fern plants and populations could be an important contribution that the Society could make to understanding and detecting any effects of climate change in response to predicted global warming.

Holly fern surveying, Yorkshire Dales National Park – January/February

Bruce Brown

Having successfully finished surveying *Polystichum lonchitis* on Moughton Common by the end of 2018, we decided to take advantage of the favourable winter weather while it lasted and continue monitoring other Dales sites. So through January and February we worked our way one by one through eight further sites. We endured cold misty weather on Attermire and had even a little snow to contend with on Fell End Clouds, but for compensation clear blue skies and bright sunshine greeted us on Arncliffe Clowders and Great Asby Scar. By the beginning of March the Dales survey was complete, with 441 plants recorded at nine different locations, and the results were presented at the BPS Spring Meeting at Harlow Carr.

Moughton remained the largest population, with 205 plants, followed by Arncliffe Clowders with 121 and Fell End with 72, these totals all being more or less double those recorded in earlier years. Smaller populations such as Attermire and Malham remained generally stable in numbers. The only known plant in Ling Gill had unfortunately died; however, Great Asby was a new location for the fern. Of note were the long frond lengths of plants in the deeper grykes of Fell End, and the larger proportion of younger plants on Arncliffe Clowders, due maybe to a more favourable cattle-grazing regime replacing sheep.

Moonwort monitoring, Grinton to Redmire Road, Yorkshire Dales – 1 June

Barry Wright

There continued to be a significant decline in numbers of moonwort (*Botrychium lunaria*) and adder's tongue (*Ophioglossum vulgatum*) across all our quadrats. The reasons for this are so far unclear. It could be a climate change effect or it could be something as simple as the fact that the colonies have been in the same place for so long that they have exhausted the soil resources and are now declining within the fixed quadrats; they may be expanding and moving into new areas where there are more nutrients to further their survival. This is part of the reason for doing monitoring – to gather information and then to try and interpret what it is telling you about the species in question.

Table showing the decline in numbers of moonwort over the years 2016 to 2019
(Fronds/quadrat; adder's tongue numbers in square brackets.)

Year	Quadrat no.												Total
	230	231	232	233	236	322	323	324	325	326	267	269	
2016	35	9	6	17	9	0	6	12	24	16	1 [3]	11 [3]	146 [6]
2017	6	1	0	1	4	0	2	3	11	11	0 [4]	4 [3]	43 [7]
2018	8	0	2	9	1	1	2	8	14	12	0 [4]	3 [2]	60 [6]
2019	1	1	1	3	0	0	0	2	9	1	0 [4]	4 [0]	22 [4]

Woodsia ilvensis monitoring, Upper Teesdale – 26-27 June **Laurence Sutton**

This was a revisit to the two upper Teesdale sites previously monitored on September 3rd and 4th 2018 (see 2018 *Bulletin* 8(5): 439-441). Since 2018 had proved to be an extremely dry year, it was considered that an earlier seasonal review, following hopefully a less dry spring, would yield more florid fern growth and evidence of recovery compared with 2018. The monitoring group, consisting of Bruce Brown, Alison Evans, Carmen and Fred Horner and Laurence Sutton, met up on the road towards Cow Green reservoir near the Langdon Beck hotel and shared cars to reach the nearest access point to Cauldron Snout and our first monitoring site at Tinkler’s Sike. Most of the two days was spent in glorious sunshine with fair-weather clouds. The method of monitoring was described in the 2018 report and all went smoothly (apart from me leaving the blue marker flags in the car; the return hike to retrieve them was good exercise!) Within a few hours we had completed the monitoring, had lunch and had time to walk and explore along the base of Falcon Clints, where we found some handsome specimens of *Dryopteris oreades* and *D. expansa* in addition to *Cryptogramma crispa*.



photo: Fred Horner

Cronkley Woodsia-monitoring site, Upper Teesdale
Laurence Sutton, Bruce Brown, Carmen Horner, Alison Evans

We spent a pleasant evening at the Langdon Beck hotel, with time to explore the adjacent beck. Bruce located the site for *Equisetum pratense* and closer to the hotel a clump of rare *Alchemilla acutiloba* in the road verge.

The following day, after parking in Forest-in-Teesdale we made our way across the Tees (35/862293) and walked back towards Cronkley on the south side of the river for three kilometres. We headed up to the monitoring site from a large patch of *Potentilla fruticosa* in full flower, passing other Teesdale inhabitants such as the easily overlooked marsh arrowgrass, *Triglochin palustris*. The monitoring was undertaken in a leisurely manner, with the bonus of perching stonechats, ring ouzels flying by and reed buntings singing! Near to the monitoring site we found quite luxuriant pockets of *Gymnocarpium dryopteris*. We departed from the site mid-afternoon, happy with the wonderful weather and local nature.

Results

All plants identified in 2018 were found at both sites, giving a total of 16 at the Cronkley location, and 10 at Tinkler’s Sike. The differences in maximum frond length and frond number compared with 2018 were recorded, as well as frond fertility. Details of the plants are shown in the two tables below, with plants ranked by total frond number.

Table 1. Results of *Woodia ilvensis* monitoring at Cronkley in June 2019
Frond number and length changes as compared with 2018 figures

Plant no.	Total fronds 2019	Increase/decrease in number of fronds cf. 2018	Increase/decrease in max. frond length cf. 2018 (cm)	Fertile?
35	38	+13	+1.0	y
48	31	+1	+8.0	y
28	21	+6	+1.5	y
32	15	-1	+1.0	y
43	14	+4	+0.3	y
26	13	-3	-0.5	y
23	12	+2	+0.5	y
24	11	+4	+1.5	y
36	10	+5	+3.8	y
18	10	+3	+0.5	n
1	5	-3	+2.1	y
15	3	0	-3.0	n
45	2	0	-0.5	n
4	1	-4	-1.0	n
10	1	0	-0.8	n
14	1	-4	-4.5	n
Total plants 16	Mean 12 fronds/plant	Mean +1.4 fronds	Mean 0.18cm longer	62% plants fertile

Table 2. Results of *Woodia ilvensis* monitoring at Tinkler's Sike in June 2019

Frond number and length changes as compared with 2018 figures

Plant no.	Total fronds 2019	Increase/decrease in number of fronds cf. 2018	Increase/decrease in max. frond length cf. 2018 (cm)	Fertile?
43	11	-1	+2.5	y
19	7	+2	+1.2	y
46	6	+1	+0.2	y
9	4	0	0	n
63	3	0	+0.5	n
38	2	-1	+1.2	y
39	2	0	-0.7	n
47	2	0	2.7	y
49	2	-1	+1.0	y
51	2	0	+1.5	y
Total plants 10	Mean 4 fronds/plant	Mean 0	Mean 0.47cm longer	70% plants fertile

Overall there had been no significant flourish compared with the September findings, which was disappointing. The more robust plants (at the top of the tables) showed greater growth compared with the much smaller more vulnerable individuals. Indeed several of the smallest stations were quite difficult to locate without close inspection and the benefit of the clear co-ordinates and photographs from the 2018 monitoring exercise.

The results were presented and discussed at the Yorkshire Fern Group AGM at Harlow Carr, Harrogate and it was thought appropriate to repeat the monitoring after four years.

Pillwort surveys and translocations – Strensall Military Training Area (SMTA) – 15 June, and Skipwith Common NNR, Vale of York – 29 June Barry Wright

Although the monitoring groups are largely independent of our meetings programme, we did include pillwort (*Pilularia globulifera*) as a formal trip for both Strensall and Skipwith. Translocations normally used fresh live green material that was introduced within days, weeks or sometimes months of being collected. Except for Skipwith in 2018 when only sporocarps were moved as the ponds were all dry during the summer.

A monitoring visit to Strensall in January had aimed to check if there was any visible pillwort growth in any of the ponds, as it is supposed to go into a resting phase over winter but not disappear completely. This was highly unsuccessful as the water levels were exceptionally high and also the ponds were covered in two centimetres of ice, making surveying impossible. The summer Strensall meeting was on one of the few non-firing days on the ranges, and it was expected that the June date would mean relatively low water levels in the ponds, facilitating finding some of the plants that were translocated in 2018. This was not the case. The summer had been particularly wet, and the plants were in too deep and too far from the shore for us to be able to confidently determine whether the translocations had been successful. A further monitoring group visit in August revealed that our translocations in 2018 had been successful as water levels were more suitable than at our June meeting and a number of colonies were observed. The water levels were relatively low, which allowed us to see the colonies probably at similar water levels to those when they were originally inserted. However, there was some evidence of movement up and down the shorelines as at pond 20 (see photo overleaf).



photo: Barry Wright

Strensall 'pond 20' showing evidence of water movement up and down shoreline

One of the other aims of the 2019 surveys was to revisit two drains that were lined with concrete slabs. On our earliest visit to Strensall in 1986 I recall that Jack Bouckley, Richard Unett and I were walking back from doing surveys of pillwort on the eastern firebreak and passed these drains, remarking on the fact that there were colonies of pillwort growing in the sand on the bottom of each. These too were visited in both January and June, with negative results due in

part to the high water levels, but also the bases were becoming choked with vegetation.

At Skipwith on 29th June we attempted to detect any successes in our translocation efforts in the ponds on this National Nature Reserve. We were initially heartened to find what appeared to be an established colony from translocated sporocarps in one of the newly created scrape ponds (runway 2b – 44/6464.3763) on the reserve. However, our enthusiasm was dashed when it transpired that a local ecologist had translocated some pillwort. We only translocated within-site at Skipwith and Strensall as we were keen to demonstrate that we were concerned about biosecurity and didn't want to move injurious plants like *Crassula helmsii* or anything else nasty from one pond to another, and certainly not from an off-site pond to one on-site. Undeterred, we collected fresh plants from one of the three abundant colonies at Horseshoe Pond (44/6619.3715) and moved these to Reed (44/6590.3730), Concord (44/6573.3716), Runway pond (44/6465.3764), Dog wash (44/6450.3746), King Rudding 44/6442.3740), Runway 2a (44/6462.3761), 2b (44/6464.3763) and 2c (44/6442.3747). Concord pond was dry in 2018 but infested with pond weed, so we cleared a patch to translocate into when water levels were suitable. The opened up area (see photo right) was wet in 2019 (5 to 10cm deep) and received translocated pillwort. Time will tell if these succeed.



photo: Barry Wright

Cleared area of Concord pond at Skipwith Common ready for translocation of *Pilularia*

One of my objectives is to investigate whether or not future translocations can be

made using sporocarps, the main advantage being that they can be harvested, cleaned (thereby overcoming most biosecurity issues) and stored prior to being used as donor material. I interrogated the Internet for information on growing pillwort from spores but found very little, so thought I would ‘do-it-myself’ and find out how things developed once the sporocarps split and released their spores. I had collected some sporocarps from Skipwith in 2018 and kept them in a plastic bag until this year, and was amazed not only to find that they germinated, but that they developed into small plants within relatively few weeks (see photo below). I plan to publish the results of this.



photo: Barry Wright

New plant of pillwort, *Pilularia globulifera*

Malham, Yorkshire Dales National Park – 27 July

Bruce Brown

After a successful meeting with the Bradford Botany Group a couple of years back we were keen to arrange another get-together; this time Malham was the venue. In the early 2000s this area was studied by Ken Trewren and others for *Polypodium*, finding all six taxa present (see 2012 *Pteridologist* and reports in the 2005 and 2011 *Bulletin*). *Polystichum* species are also well represented hereabouts, so there is a lot to interest newer members and botanists in general. Malham is a noted hotspot for its flora and it was great to be able to fully appreciate this in the summer months (most *Polypodium* research was done in winter). More than 200 plant species were recorded over the day, including rarities such as horseshoe vetch and Jacob’s-ladder, but here we will concentrate on the ferns.

Fifteen of us met at Malham car park (34/899627), with heavy and persistent spells of rain soon to set in; everyone got rather bedraggled as the day progressed. But undaunted we set off on the popular path to Janet’s Foss. *Equisetum arvense* occurred in the marshy fields, then we entered fern-rich woodland, finding *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrialeans*, *Athyrium filix-femina*, *Dryopteris filix-mas*, *Polystichum aculeatum* and many trees adorned with *Polypodium vulgare*. Although very calcareous, occasional plants of *Dryopteris dilatata* managed to grow on tree roots. A distinctive crag with a cave-like hole at its base is home to *Polypodium xshivasiae*. By crawling through the hole and clambering up the rock behind one can get a good close-up of this large-fronded hybrid with serrated pinnae.

The picturesque waterfall of Janet’s Foss (34/911633) was a good lunch spot with some overhead tree shelter from the elements. Then we were back in the open taking a path north-westwards and up some scree into the dry limestone valley originally studied by Ken (34/908638). Along with much *Cystopteris fragilis* the two colonies of *Polypodium cambricum* were still doing well, as was the *P. xfont-queri* colony nearby. We climbed to the valley rim where the outcrops have several clumps of *P. xmantoniae*, then joined the road descending as far as 34/902637. The path heads north-west, passing *Asplenium rutamuraria* en route for the top of Malham Cove, but we detoured a short way up Trougate and on to an area of limestone pavement that is home to ten plants of *Polystichum lonchitis* and plentiful *Asplenium viride*.

Malham Cove gave spectacular views down Malhamdale, but due care was required negotiating the slippery pavement across its top. Nevertheless we were able to find the single plants of *Polystichum x bicknellii* and its parent *P. setiferum* that grow here in the protection of the deep grykes. It was a long descent down the interminable steps to the Cove base, then not far back to the village, but energy was summoned for the last short detour to the cliff-face where the beck issues and a small outcrop had our final taxon, *Polypodium interjectum*.

Castlebeck & Scar Woods, NW of Scarborough, North York Moors – 10 August **Barry Wright**

This field trip was to a site originally planned for 2002 by Ken Trewren but he was called away with work and left the task to me. Before he left we went on a recce, with Ken giving me his insight into where things might be found. I followed his instructions and we did indeed find all of his expected species where he had shown them to me (see 2002 *Bulletin* page 134, 20 July). This followed a previous visit with Jack Bouckley reported in the 1989 *Bulletin* (page 187), when fewer species were found, with *Dryopteris aemula*, *Equisetum telmateia* and *Phegopteris connectilis* absent from the recorded species list.

For the current field visit we took a shortened version of the 2002 excursion in that we missed out parts of the northern area that were relatively sparse in ferns, although did have the elusive *Vandenboschia speciosa* in some deep dark crevice.

There were several highlights to be found in these woodlands bordering streams. In particular I was very keen to revisit the *Dryopteris aemula* site in Scar Wood (44/9464.9706) that Ken showed me. It was exactly as I had pictured it and it appeared to be in as good condition as I recall in 2002. Even down to the care needed to cross the streamlet and avoid damaging a small plant at the crossing point (see photo below). Smaller plants were also found at 44/9473.9695, which made me wonder whether or not such



photo: Barry Wright

Scar Wood, North York Moors

Barry Wright, Carmen Horner, Bruce Brown, Yvonne Golding, Roland Ennos, Gabrielle Jarvis

colonies should be monitored to note any decline, new plants or any increase in size of the colony of smaller plants. As this site is so easily accessible I propose initially annual monitoring, maybe dropping off to every two to three years depending on the results.

We re-discovered *Dryopteris carthusiana* at 44/9466.9737 in Scar Wood, seen in 1989 but not found in 2002.

One of the major highlights of this woodland is *Equisetum telmateia*, which forms an extensive understorey to large parts of the south-eastern side of Castlebeck Wood east of Castle Beck (44/9496.9692 to 44/9503.9718). Interestingly it is a relatively lime-loving plant and it was found in association with *E. sylvaticum*, which has a stronger association with acid soils. In addition, *Phegopteris connectilis* was found in two colonies in Castlebeck Wood at 44/9504.9705 and 44/9504.9720 further asserting that the pH is likely to be more on the acid side. Opposite the first colony, across Castle Beck on the western bank, was one of Ken Trewren's *Dryopteris borrieri* "forma *foliosum*". Across a small stream in Castlebeck Wood was a fallen log with epiphytic *Oreopteris limbosperma* growing on it (44/9504.9702).

We didn't find any convincing *Polypodium interjectum*, but several colonies of *P. vulgare* in both woods, at 44/9467.9744, 44/9468.9746 (on a wall), 44/9503.9717 (on a trunk across the stream) and 44/9511.9732 (on soil or a buried tree root).

In Scar Wood there was a nice patch of *Equisetum sylvaticum* mixed with *E. arvense* on the western bank of Jugger Howe Beck at 44/9482.9761.

The main *Dryopteris affinis* were subsp. *borrieri* e.g. at 44/9484.9764 and 44/9482.9761. We had the usual species as well, including *Pteridium aquilinum*, *Dryopteris dilatata*, *D. filix-mas*, and *Athyrium filix-femina*. We also found some *Equisetum palustre* at 44/9483.9808. On the way out of Castlebeck Wood there was *Asplenium scolopendrium* growing on the masonry of the road bridge at 44/9523.9736.

It was a very rewarding day with much *Dryopteris aemula* worshipping.

Castle Eden Dene, Peterlee, County Durham – 14 September Barry Wright

Castle Eden Dene is a National Nature Reserve, and although technically outside our area it was woodland that I wished to look at because it is regarded as an important ancient woodland site and to my knowledge has not been explored by a fern group. The Reserve is large and extensive, running south of Peterlee from the A19 to the coast. It is well supplied with well-surfaced public footpaths, making the woodland relatively easy to access. From the visitor centre car park (45/427393) we walked on the northern side of the woodland working westward towards the A19. The path crossed a steep gorge via Gunner's Pool bridge (45/4184.3875), from which you could look down (providing you did not suffer from vertigo) and marvel at the extensive stands of *Asplenium scolopendrium*. This species and *Polystichum aculeatum* were very common within the woodland, which is on limestone. The calcareous nature of the substrate limits the range of species to be found, and some species that would normally be expected to be common were thus very rare, for example *Struthiopteris spicant* was only found as a few scattered plants along a stretch of about 30 metres (45/4221.3885). Other species, such as *Asplenium trichomanes* subsp. *quadrivalens*, would be very much expected on the numerous limestone cliffs, but only a chance observation of a single plant sitting in a hole in a large block of limestone revealed it to be present (45/4338.3945). Confusion arose at 45/4300.3932, where there were both *Polystichum aculeatum* and *P. setiferum* along with some putative hybrid plants (*P. ×bicknellii*). Michael Wilcox took some material back, but the spores were old and not easy to determine. Better specimens are needed next year. This was a good spot for lunch.



photo: Barry Wright

Castle Eden Dene, County Durham

Robert Potvliege, Gabrielle Jarvis, John Killingbeck, Roland Ennos, Yvonne Golding,
Carmen & Fred Horner, Barry Wright, Michael Wilcox

The Castle Eden Burn that runs through the bottom of the Dene has a tendency to disappear during summer, flowing again when the autumn rains replenish the losses caused by water disappearing into the limestone substrate. As this replenishment had not yet taken place we were able to walk down the river bed observing the

riverbank ferns more easily. It was gratifying to discover a single colony of *Polypodium vulgare* growing on a fallen tree trunk on the riverbank (45/4319.3938) east of the visitor centre, as during my recce this species had eluded me – another species that should have been more abundant, but wasn't.



photo: Barry Wright

Crisped *Asplenium scolopendrium* at Castle Eden Dene, County Durham

Another nice find was a very crisped *Asplenium scolopendrium* at the base of a cliff at 45/4315.3934.

Sea spleenwort monitoring in Yorkshire – November/December Yvonne Golding

Hull, East Yorkshire – several visits up to 18 December

In 2004 the Vice-county Recorder for East Yorkshire discovered three plants of *Asplenium marinum* growing spread out on a south-facing mortared quayside wall in the city of Hull. By 2014 they had increased to 12 sizeable clumps in three colonies, presumably around the three original plants. In 2018 we counted 24 plants in the first colony, 11 of which were established and the rest small regeneration. In the second colony there were around 14 clumps plus four tiny plants, and in the third colony 25 plants of which nine were small regeneration. The plants stretched from 54/0982.2814, east to 54/0988.2816.

We also searched around the whole marina in 2018, finding the usual wall ferns – *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrialeans*, *A. ruta-muraria* and *A. adiantum-nigrum* but we only found one other *A. marinum*, growing near the harbour-master's office. The building is now under different management and sadly this sizeable plant had disappeared by the time we visited in 2019. However, the counts on the original harbour wall were about the same as in 2018. We will be monitoring this site annually and will report back if the population changes significantly.

Whitby, North Yorkshire – 22 November

In 2005 the Yorkshire Fern Group visited Whitby and recorded *Asplenium marinum* growing at the south end of the West Pier on the east-south-east-facing harbour wall. There was also a sizeable and more accessible plant growing on a nearby toilet block. This site was also checked out during the BPS national meeting to the North York Moors in 2014 but not recorded. So in 2019 we decided to monitor this site. Sadly the plant on the old toilet block had disappeared along with the toilet block, which had been replaced with a clean-walled brick building. However, the colony on the sea wall had vastly expanded. We estimated (with binoculars from the bandstand promontory) around 40 plants under an overhanging stone lip growing above sea level between stone blocks (45/8986.1146 to 45/8986.1147), plus one outlier aside from the overhanging lip in a sheltered corner to the south of the main colony (45/8985.1145). Further along the West Pier as one walks out to sea, and visible from the railings above, there is a well-spread colony of more than 170 much smaller plants on three levels above the sea (45/8988.1150 to 45/8992.1162). We also looked on the beach side wall of the West Pier,

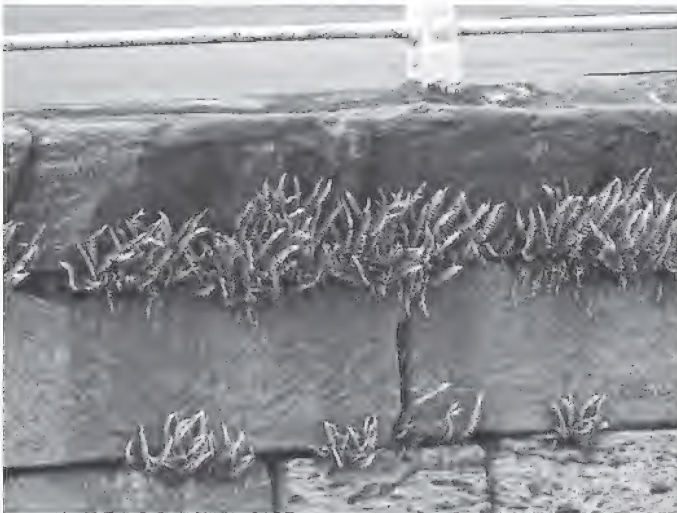


photo: Yvonne Golding

and the East Pier walls on the other side of the harbour but to no avail. We will monitor this site annually and search other walls around Whitby.

The harbour masters in both Hull and Whitby have been made aware of these sites.

Thanks to members Roland Ennos, Mike Hill, Gabrielle Jarvis and Frank Katzer for participating.

Asplenium marinum, Whitby harbour, North Yorkshire

HORTICULTURAL SHOWS & OTHER EVENTS

SPECIALIST PLANT SOCIETY SHOW, RHS WISLEY, SURREY – 15-16 June

Jude Lawton



photo: courtesy Jude Lawton

BPS stand at Wisley Specialist Plant Show

Julian Reed, Sophie Walwin, Jude Lawton, Peter Blake

Once again the RHS hosted this show at Wisley. The marquee was tucked away in Wilson's Wood, but the RHS provided plenty of posters and signposts, and handed out leaflets at the main entrance to tell the public we were there. The weekend also coincided with the opening of the new Welcome building, so we had no shortage of visitors.

Peter Blake, Julian Reed and Jude Lawton provided the ferns and, with the very welcome help of Sophie Walwin, we built an impressive display that attracted much attention and

admiration. It seems that more people than ever are coming to appreciate what wonderful plants ferns are. Once again, Peter's delicate, lacy *Adiantum raddianum* 'Micropinnulum' was very popular, as was by contrast a hefty *Dryopteris sieboldii*. There was so much enthusiasm and demand for advice that we were kept constantly busy on both days. Peter also took part in the mini-masterclasses, with a demonstration of spore-sowing.

Thanks to all who helped to make this event so successful. It is now a fixture in our calendar, and promises to be even bigger in 2020, so if you are free on 20th and 21st June, please contact Jude for details: judelawton@btinternet.com.

BPS FERN SHOW, RHS WISLEY, SURREY – 3-4 August

Julian Reed

This two-day event for the BPS in the gallery of Wisley's magnificent Glasshouse was again a brilliant success. This time we had a lot more ferns for people to see, spread over 22 tables. We borrowed a good range of *Dryopteris* from Fibrex, and many members contributed plants: Tal Williams, a tank of aquatic tropical ferns; Steve Munyard, lovely filmy ferns and some aquatic species; Pat Acock, beautiful equisetums – *E. sylvaticum* always looks lovely; Jude Lawton, a very wide range of ferns; Peter Blake, beautifully grown tender ferns; and Bryan Smith, 'straight' species for comparison. We also had blocks of cultivars and species of *Pyrrosia*, *Polypodium*, *Polystichum* and *Athyrium*, and dwarf/rock-garden ferns. Peter Tindley and Peter Blake shared duties on spore-sowing demonstrations and Bryan and Gill Smith brought merchandise to sell. The public loved the chance to buy ferns, so special thanks to Heather Goddard-Key of Fibrex and to Jurgen and Elaine Schedler from Crawford ferns. We were busy all weekend and also had good numbers on the fern walks round Wisley gardens.

The 2020 event will be on the 18th and 19th July. You get free entry when you are involved and we need to spread the load so that people can enjoy the gardens as well as manning the stand. The more the merrier, so please contact Julian on julianreed@waitrose.com so we can set up a rota. You do not need to be on the stand all day, just for an hour or more, but help is particularly needed over lunch and in the afternoon.

We owe a big thank you to all at Wisley for enabling us to promote ferns to keen gardeners who had never heard of a fern society let alone the British Pteridological Society. And thanks again to the members who travelled from all over the country to make this event such a success, it was very much appreciated.

SOUTHPORT FLOWER SHOW – 15-18 August

Michael Hayward

The Southport Flower Show has a different theme each year, which stands and display gardens are requested to implement. The scheme was introduced with the idea of making the displays less predictable. This being the 90th anniversary of the show, the theme was *Garden Party*. Our response was to decorate our stand, again comprising an equal mixture of indoor and outdoor ferns, with streams of pastel-coloured satin ribbon, a champagne bottle and glasses, and tea crockery. In the late Victorian era, the Rev. Charles Padley was praised for his use of ribbons decorating his fern displays, so we had a good precedent for their use and we were again awarded a Gold Medal by the judges. Next year will be a greater challenge as the theme is *Life in Bloom*.



photo: courtesy Alison Evans

BPS stand at Southport Flower Show

Robert Crawford with BPS Cup, Michael Hayward with Gold Medal certificate, Alison Evans with Happiland Trophy

Aglaomorpha (Drynaria) rigidula atop a ceramic column. Class 7, One British Fern, included an original clone of *Athyrium filix-femina* 'Victoriae' exhibited by Alison Evans, contrasting with the alpine *Woodsia ilvensis* shown by Robert. The Happiland Trophy for the highest number of first prizes was won by Alison Evans.

The competitive classes were again judged by Richard Key and the winners were:

- Class 5 Individual Championship and BPS Cup – four British ferns (dissimilar), two foreign ferns hardy in Great Britain and two greenhouse ferns (dissimilar):
1st Robert Crawford, 2nd Ian Fairclough (2 entries)
- Class 6 One foreign fern hardy in Great Britain:
1st Alison Evans, 2nd Ian Fairclough (4 entries)
- Class 7 One British fern; any species or cultivar:
1st Alison Evans, 2nd Robert Crawford, 3rd Andrew Harrison (6 entries)
- Class 8 One greenhouse fern:
1st Alison Evans, 2nd Michael Hayward, 3rd Robert Crawford (5 entries)
- Class 9 One *Asplenium scolopendrium*:
1st Alison Evans, 2nd Robert Crawford, 3rd Ian Fairclough (5 entries)
- Class 10 Three ferns of the same kind (genus); species or cultivars:
1st Robert Crawford, 2nd Lionel Clarkson, 3rd Alison Evans (5 entries)

My grateful thanks are due to all of the volunteers who helped to set up and man the Society stand: Steven Coleman, Robert Crawford, Alison Evans, Paul Evans, Roger Golding, Alec Greening, Andrew Harrison, Ann Haskins, Ruth and Trevor Pearce and Robert Sykes.

The dates for the next show are 20th to 23rd August 2020.

Alongside the display of plants we had two tables to display our Society literature, merchandise for sale, and a display of spore-sowing and fern propagation. We were particularly pleased to have a new set of A1 posters to display behind the stand. The second day of the show saw torrential rain all day with an accordingly low attendance, but there were steady streams of visitors on the other days.

Some excellent plants were shown in the competitive classes. Robert Crawford's display, which won the BPS cup, was centred around a striking

SECRETARIAL NOTES

Please note: names and contact details of all officers can be found on the inside of the front cover of this Bulletin. Most of the information below is also on our website www.eBPS.org.uk.

ANNUAL GENERAL MEETING 2020 – The postponed 117th AGM will take place on Saturday 7th November 2020 at Biddulph Old Hall, Biddulph, Staffordshire at 2.00 p.m.

SUBSCRIPTIONS 2020 – Subscriptions were due on the 1st January and should be paid to the Membership Secretary. Current rates are given inside the front cover of this issue. **Cheques** should be made payable to ‘The British Pteridological Society’. Payment can also be made by **PayPal** via our website. **Standing Order** forms are available from the Membership Secretary and the BPS website. Standing Orders may be paid on 1st January or 1st February. In either case, membership is deemed to be from 1st January to 31st December. Any member whose subscription is unpaid on the 31st March shall be liable to have his/her name removed from the list of active members of the Society.

GIFT AID – As a registered charity, the BPS can claim back from the Inland Revenue 25p for every pound paid in the annual subscription for each member who authorises us to do so. In 2019 we were able to claim £1,358. While this is obviously an extremely valuable addition to the Society’s annual income, it could be considerably more if all eligible members authorised it. All that is required is a minimal amount of form filling and a second class stamp. Even better, **the form has only to be filled in once**. There are a small number of provisos:

1. Gift Aid is available only to members who reside in the UK.
2. Members on whose subscription Gift Aid is claimed must be paying income tax or capital gains tax at least equal to the amount claimed.
3. Members whose subscriptions are allowed as an expense in connection with their employment may not claim Gift Aid.

Please complete a Gift Aid form if you are eligible.

PUBLICATIONS BY AIRMAIL – Members outside the UK are asked to pay a higher membership fee to cover the extra postage costs of journals. Journals are sent by airmail to all overseas members. Please note that we no longer offer a surface mail option as it is currently more expensive. See inside front cover for rates.

E-MAIL ADDRESSES – These are published in the Membership List ‘for members who have a relatively stable e-mail address and who keep up-to-date with their messages’ (subject to a current General Data Protection Regulations (GDPR) consent). A supplementary list and amendments are published with the *Bulletin*. For e-mail alterations, please contact the Membership Secretary by e-mail.

E-MAIL NEWSLETTER – We send quarterly news e-mails to those members who choose to have e-mail communication, to remind them of BPS events and services. The information will be included in our paper mailings to those who do not use e-mail. If you have an e-mail address that you use regularly and you would like to have this service and/or you did not receive our Spring e-mail in early March, please inform the Membership Secretary.

NOTIFYING CHANGES OF ADDRESS – Please inform the Membership Secretary of changes of address and telephone number. She is responsible for notifying any other officers and appointees who need to know.

CODES OF SAFETY, CONDUCT AND DECLARATION FORM – All members attending Society field meetings should be aware of the Society’s *Safety Code* and the *Code of Conduct for picking, collecting, photographing and enjoying wild plants*. Both documents are printed in this issue of the *Bulletin*, and are available on the BPS website. For each meeting you attend, you will be required to sign a Participants Declaration form, which the meeting leader will have, whereby you agree to abide by these Codes.

PAYMENT OF EXPENSES – The Treasurer has *Rules for Seeking Reimbursement of Personal Travelling and Administrative Expenses* by Officers and Members acting on behalf of the Society. Forms for claiming expenses can be obtained from the Treasurer or website.

COPYRIGHT – All contributors to the BPS journals are required to sign an agreement assigning ownership of copyright of the article, photograph etc. to the BPS. This has the aim of safeguarding the contributors' work from unlawful copying and use. It does not stop contributors from using their own work elsewhere provided that they acknowledge the original source of publication.

GREENFIELD FUND – This fund, set up as a memorial to one of our Society's great fern growers, Percy Greenfield, is used to finance approved projects, helping with the cost of necessary equipment, books and travel expenses. Percy Greenfield's interest leaned very much towards the non-scientific side of our activities and it is felt that he would have wanted this taken into consideration when decisions are made. Workers eligible for university or college grants and similar support are not therefore eligible for help from the fund. Anyone wishing to apply for this funding can find details on our website or contact the General Secretary.

CENTENARY FUND – This fund is used to promote the study of all aspects of pteridophytes – horticultural, scientific and educational, whether by amateurs, students or professional pteridologists. As such its scope is much broader and more flexible than the Greenfield Fund. Anyone wishing to apply for this funding can find details on our website or contact the General Secretary.

THE J.W. DYCE AWARD – This award was set up to honour the memory of Jimmy Dyce who was a member from 1935 until his death in 1996. The thirteenth J.W. Dyce Award will be made at the 2020 AGM to the author(s) of the best paper, article, book or other substantial piece of work published during 2019 in any of the three BPS journals, on the BPS website or as a Special Publication. The award, which is a cash prize of £100, is open to everyone, whether professional or amateur pteridologist, horticulturalist or fern enthusiast. Members may nominate an article by contacting the Secretary by February 28th.

PHOTOGRAPHIC COMPETITION – The annual competition is open to all members of the Society who have an interest in photography and wish to share their fern and fern-related images with others. Entries (which must be previously unpublished photographs) will be displayed at the AGM, and winning entries will be decided by members at the AGM. Winning entries will be included in a special feature in the *Pteridologist* following the competition. In addition, and after judging, any or all of the competition entries received may be displayed on the BPS website for general viewing. Some entries will also be used in the annual BPS fern calendar. Entries must be received by 31st March. See the Autumn Mailing or our website for details.

HORTICULTURAL INFORMATION SERVICE – Members often require information and advice on many aspects of pteridophytes but are reluctant to ask or simply do not know where to obtain help. On the website there is a 'What's that fern?' page, and queries from members on the identification or cultivation of ferns should be sent to the Horticultural Information Adviser, Matt Busby.

SPECIAL INTEREST GROUP: CULTIVARS – The Cultivar SIG welcomes anyone with a specialist interest in cultivars. They organise field trips, speakers, garden visits and a newsletter. For information contact Julian Reed (Cultivars@eBPS.org.uk).

BACK NUMBERS OF JOURNALS – If you have any gaps in your collection or are a relatively new member you may be interested in acquiring some back numbers of journals. A photocopy can usually be supplied if we have run out. A bargain pack is available for £7 including postage. Contact Pat Acock (BackNumbers@eBPS.org.uk) who holds the stock.

READING CIRCLE – The Society operates a reading circle for the *American Fern Journal*, a quarterly publication containing much information for those seriously interested in ferns. The *Fiddlehead Forum*, which publishes many 'ferny' items of interest to the amateur grower, accompanies it. To receive these journals please contact David Hill (Secretary@eBPS.org.uk).

ROYAL HORTICULTURAL SOCIETY – Our Society is affiliated to the RHS. This enables a limited number of members to enjoy certain privileges in connection with RHS Shows, competitions and services. Some RHS Journals are available free to members. For further information please contact the Treasurer.

BPS WEBSITE – The BPS website is the main platform for the flow of information from the BPS to its members and to the general public. The website provides information on the BPS itself and on any fern-related subject. The general public and members are invited to contribute and even create fern-related blogs without needing to join the BPS, although we always encourage new membership. The website is as interactive as is possible, facilitating all of our traditional activities on-line. Nearly all the activities listed on this page are available on the website. It is an important part of the philosophy of the website that it is inclusive and the BPS invites everyone to view, interact and contribute. Please do have a look at www.eBPS.org.uk. Feedback is actively encouraged to help with site development. The site also has links to our social media accounts.

AMERICAN FERN SOCIETY – The AFS **no longer** has a reciprocal payment arrangement with the BPS. Members wishing to join the AFS should do so directly.

PRESERVING OUR FERN HERITAGE – Many BPS members have collections of ferns that they have built up over the years. Some will contain rare plants and cultivars that are no longer easily available. We feel that it is important to preserve these plants and collections where possible. Often, members give clear instructions as to how they want their collection to be dealt with if they are no longer able to care for it themselves, but this is not always the case. Do you or a relative have a fern collection that can no longer be cared for? We have a network of volunteers around the country who can help in various ways, such as advice on how to maintain a collection, what value it may have, how to arrange sale of plants, or re-location to a public garden. Please contact the Membership Secretary in the first instance, so that she can pass on your request to a volunteer local to you.

MERCHANDISE – The BPS has a lovely range of merchandise including sweatshirts, polo shirts, T-shirts, fleeces and baseball caps; these are all dark green with a small embroidered BPS logo in yellow. Other items, such as BPS ties, metal badges, ferny greetings cards, bookmarks, pens, calendars, mugs, jute bags, fern guides and ladies' scarves, are also for sale. You can see photos of items for sale on our website and order them using PayPal. The organisers Bryan and Gill Smith welcome suggestions for new stock. Merchandise is available to purchase at the AGM (pre-ordering recommended).

BOOKSALES – It is difficult to find second-hand fern books at reasonable prices, so if you are thinking of selling any of your books please consider first offering them to the Society. Frank Katzer would also be pleased to receive any donated or bequeathed books that could then be offered to members at affordable prices. Please contact him by e-mail.

PLANT EXCHANGE – This scheme enables UK and (currently) EU members to dispose of surplus ferns to the advantage of those who would like to acquire some different species and varieties. Most of the plants offered are young sporelings. The exchange is administered using an on-line system that can be accessed by members from the Plant Exchange page of the BPS website. There, surplus plants can be added to the list and the information necessary to request available ferns can be found. Contact the Plant Exchange Organisers Brian and Sue Dockerill for further details, or to request a current list by post.

SPORE EXCHANGE – The current spore list is published on our website or can be obtained from Spore Exchange Organisers Brian and Sue Dockerill. The Spore Exchange is open from the 1st January until the end of March each year.

NURSERY ADVERTISEMENTS – Members with nurseries that offer ferns are reminded that they may place an advertisement in the *Bulletin*, *Pteridologist* and on the website free of charge in return for the inclusion of a note about the Society in their catalogues/websites. If members wish their nursery to be included, in the first instance please contact the General Secretary.

PUBLICITY and MARKETING – We are looking for individuals who can help with various aspects of publicity, social media and/or marketing. If you have a particular area of interest (shows, meetings, digital content, graphics, photography, writing, illustration or other) and you feel you may be able to help in any capacity, please contact Sophie Walwin (Publicity@eBPS.org.uk).

EDUCATION – The Education Subcommittee would be very pleased to hear your ideas on how we can develop the educational role of the BPS. If you have information about any fern-related educational initiatives or resources that you have found useful, please contact the Education Officer.

FERN RECORDS – Members are encouraged to record and submit fern, horsetail, clubmoss and quillwort records whenever possible. Records can be submitted directly to the BPS Recorder, Fred Rumsey, via e-mail (Recorder@eBPS.org.uk) or using the BPS recording sheet, or via the BPS website using the Living Record page. The BPS recording sheet is available on our website or directly from Fred.

FORTHCOMING EVENTS IN 2020:

FERNS IN FOCUS, BRAZIL, 15th-17th July. An international symposium on lycophyte & fern research including evolution, conservation, biogeography, genetics and development. See <https://www.fernsinfocus2020.com/>

Details of all local, national and international BPS meetings can be found on the website. The BPS national meetings programme features on the last page of this *Bulletin*. Please consider helping with or supporting the following public events with BPS stands.

BBC GARDENERS' WORLD, NEC BIRMINGHAM, 18th June. This is a major gardening (and food) show, and the BPS will have a stand to display and promote ferns and the Society. Please contact Gill or Bryan Smith if you wish to help.

RHS GARDEN WISLEY, SPECIALIST PLANT SHOW, 15th-16th June. A display of ferns and ferns for sale. An opportunity to showcase the Society's activities. Please contact Jude Lawton to help (judelawton@btinternet.com).

BPS FERN SHOW WEEKEND, RHS WISLEY, 18th-19th July. Following the continuing successes of displays in previous years, we have again been invited by the RHS to promote the BPS and ferns. Please contact Julian Reed to help.

SOUTHPORT FLOWER SHOW, 20th-23rd August. A chance for you to help at the show, enthuse to the public about ferns and/or display your ferns to try and win in various display categories. Please contact Michael Hayward (mhaywardL23@blueyonder.co.uk) if you would like to take part.

FERN COURSES IN 2020:

KENT WILDLIFE TRUST, Tyland Barn, 9th May. An Introduction to Ferns, a one-day introduction to woodland ferns. Tutor: Ros Bennett.

ABERYSTWYTH UNIVERSITY, Ceredigion, 24th-26th June. Ferns and Fern Allies: Identification, Evolution and their Role in Victorian Life. Tutor: Prof. Barry Thomas.

FSC PRESTON MONTFORD, Shropshire, 16th May. Wildflowers and Ferns of Limestone Woodland, a day course at Intermediate level. Tutor: Fiona Gomersall.

FSC RHYD-Y-CREUAW FIELD CENTRE, Snowdonia, 18th-21st July. Fern Identification, a residential course at intermediate level. Tutor: Chris Metherell.

FSC BLENCATHRA FIELD CENTRE, Cumbria, 31st August - 4th September. The Fern Guide. A residential course for all levels. Tutor: James Merryweather.

FSC PRESTON MONTFORD, Shropshire, 9th September. Fern Identification in the Field, a day course at beginner level. Tutor: Mark Duffell.

ROYAL BOTANIC GARDEN EDINBURGH, 27th June. Fern Identification. A day course for all levels. Tutor: Heather McHaffie.

UNIVERSIDAD COMPLUTENSE MADRID, Spain, November (dates tbc). Curso de Identificación de Helechos, a week long course covering Spanish fern identification.

Courses can be booked through the appropriate organisation's website.

ANNUAL GENERAL MEETING 2019

MINUTES of the 116th Annual General Meeting of the British Pteridological Society held on Saturday 13th April 2019 at RHS Harlow Carr, Harrogate at 14.10 hrs.

IN THE CHAIR: The President, Dr Fred Rumsey.

PRESENT: Pat Acock, Jenny & Peter Baker, Shaun Barton, Peter Blake, Bruce Brown, Brian Byrne, Sandra Cain (BGCA), Mike Canaway, Steve Coleman, Rob Cooke, Brian & Sue Dockerill, John Edgington, Roland Ennos, Alison & Chris Evans, Paul Evans, Henry Folkard, Mary Gibby, Roger Golding, Yvonne Golding, Vanessa Griffiths, Peter Grimbly, Ann Haskins, Michael Hayward, David Hill, Carmen Horner, Joan Huyton (BGCA), Gabrielle Jarvis, Frank Katzer, Bridget Laue, Andrew Leonard, Nicholas Lodge, Jo Marsden, Gary Mawdsley (BGCA), Karen & Stephen Munyard, Alison Paul, Ruth & Trevor Pearce, Julian Reed, Martin Rickard, Fred Rumsey, Laurence Sutton, Robert Sykes, David Tennant, Jesse Tregale, Julia Wilkins, Barry Wright. [BGCA: Botanic Gardens Community Association, Churchtown, Southport.]

Item 1 – APOLOGIES FOR ABSENCE: Robert Crawford, Helena Crouch, Adrian Dyer, Nick Hards, Jennifer Ide, Elise Knox-Thomas, Sylvia Martinelli, Ann Robbins, Bryan & Gill Smith, Barrie Stevenson, Neil Timm, Sophie Walwin.

The President welcomed everyone to the 116th Annual General Meeting of the BPS.

Item 2 – APPROVAL OF THE MINUTES: Minutes of the 115th Annual General Meeting of the British Pteridological Society held on Saturday 14th April 2018 and published in the *Bulletin* (Vol. 8, No. 5) were approved and signed by the President.

Item 3 – MATTERS ARISING: There were none.

Item 4a – REPORT OF THE GENERAL SECRETARY: This report by David Hill was published in the *Bulletin* (Vol. 8, No. 5). The key points were restated, with special thanks for all of the volunteer effort that goes in to all aspects of the Society, including managing membership, running the Spore Exchange, leading field meetings and contributing articles to the Society's publications, website, blogs and social media. David welcomed Sophie Walwin to the role of Publicity Officer, but sadly announced the retirement of Ann Haskins from the role of Committee Secretary, and appealed for anybody who was interested in helping with this (or in any other way) to contact either Ann, Alison Evans or himself to discuss the position. David demonstrated that our membership is truly worldwide with a map showing the countries where BPS members reside.

Item 4b – REPORT OF THE TREASURER: The Society's accounts for 2018 were published in the *Bulletin* (Vol. 8, No. 5). The Treasurer, Peter Blake, added that we were thriving financially. Last year the Greenfield and Centenary Funds were rather static with very low interest rates, but he was now moving donations that we receive, including monies from plant sales, etc., into these Funds thus making more available for grants. The Merchandise account had been absorbed into the main account. We had funded the publication of Michael Hayward's book *Fern albums and related material* and had decided to set up some travel bursaries, initially in memory of Tim Pyner, for Horticultural students to travel to some of our meetings. It was suggested that they be publicised in the *Pteridologist*, and that students could be required to e.g. write a report.

Item 5 – OFFICERS' REPORTS: The Officers' Reports were published in the *Bulletin* (Vol. 8, No. 5). The following updates were given:

Membership Secretary. Alison Evans said that the figures given in the *Bulletin* had changed slightly. We had had 160 new members since the middle of September 2018 but there had also been resignations and deaths. Fifty of those who have not yet paid are members of the American Fern Society, which no longer offers the facility to pay BPS subs with AFS subs, so we could lose them. Final reminders had not yet gone out. She offered apologies to anyone who had tried unsuccessfully to use PayPal after her last reminder as it told people there was an error, leading to multiple payments. Our figures will thus be artificially inflated as they said the money could be used for future subscriptions.

Meetings Secretary. Bryan Smith could not be present but sent a request for more people to lead national meetings and for ideas for meeting locations.

Publications Secretary. Martin Rickard reported that all was going very well with our printed publications and the website, and advertised the newly available publication, *Fern albums*, from Michael Hayward.

Senior Editor *The Fern Gazette*. Mary Gibby reported that the next edition should be out soon and that she has a lot of copy for the autumn issue, including a review on edible ferns.

Website Co-ordinator. Bridget Laue encouraged everyone both to contribute to and make use of the website.

Item 6 – COMMITTEE APPOINTEES’ REPORTS: The Committee Appointees’ Reports were published in the *Bulletin* (Vol. 8, No. 5). The following updates were given:

Spore Exchange Organisers. Brian Dockerill reminded those present that spare spores were available at the meeting. The Spore Exchange continues to grow at a healthy but not scary pace.

Booksales Organiser. Frank Katzer asked members to buy the books so he did not have to take too many home.

Back Numbers of Journals Organiser. Pat Acock encouraged people to buy Special Publications and journals. He reported that he had so many books and journals stored that every time there was a new publication, he had to cull back copies of journals as he could not keep every copy of every publication. Storage was a real problem and if anyone could offer a secure storage space, could they please let him know. Fred Rumsey added that the committee needed to talk seriously about stock levels.

The President thanked all Officers and Committee Appointees for all the work they had done over the year.

Item 7 – ELECTIONS

President. Fred Rumsey was retiring at the end of his three-year term of office. He said we were very fortunate to have a very able, capable and intelligent candidate in Dr Alison Evans and he was happy to propose her. This was seconded by Julian Reed with all in favour.

Alison Paul proposed a vote of thanks to Fred Rumsey for all his work as President.

Vice-Presidents. Rob Cooke had served four terms but was standing for re-election for a further three-year term. Following a proposal by Mary Gibby, seconded by Alison Paul, he was re-elected with all in favour.

Our other Vice-Presidents are Matt Busby, Adrian Dyer, John Edgington, Roger Golding and Robert Sykes.

Officers. The following Officers were available for re-election en bloc; this was proposed by Rob Cooke and seconded by Robert Sykes, with all in favour. [**General Secretary:** David Hill, **Treasurer:** Peter Blake, **Meetings Secretary:** Bryan Smith, **Conservation Officers:** Heather McHaffie and Fred Rumsey, **Publications Secretary:** Martin Rickard, **Fern Gazette Editor:** Mary Gibby, **Pteridologist Editor:** Alec Greening, **Bulletin Editor:** Alison Paul, **Website Co-ordinator:** Bridget Laue, **Education Officer:** Gill Smith.]

Committee Secretary. Post vacant.

Membership Secretary. Ann Robbins was standing for election. Proposed by Alison Evans and seconded by Julian Reed, with all in favour.

Publicity & Marketing Officer. Sophie Walwin was standing for election. Proposed by David Hill and seconded by Yvonne Golding, with all in favour.

Elected Committee Members. Mike Canaway, Brian Dockerill, Sue Dockerill, Elise Knox-Thomas, Steve Munyard, Julian Reed and Barry Wright were standing for re-election and were all re-elected en bloc. Laurence Sutton was nominated from the floor and was duly elected. All were proposed by Alison Evans and seconded by Yvonne Golding, with everyone in favour.

This leaves two vacancies on the committee.

Committee Appointments. There were no changes.

Item 8 – APPOINTMENT OF INDEPENDENT EXAMINER

Fred Rumsey thanked Nick Hards for his past work and expressed his gratitude to Barry Buels for carrying on as our sole Independent Examiner.

Item 9 – AWARDS & PHOTOGRAPHIC COMPETITION RESULTS

J.W. Dyce Award. David Hill announced the results of the 12th award in reverse order:

- | | |
|-----------|--|
| 3rd | Fred Rumsey: A new moonwort for Britain (<i>Pteridologist</i>) |
| Joint 2nd | Julian Reed: Three generations of fern growers (<i>Pteridologist</i>) |
| | John Roper: Recovering a Victorian fernery (<i>Pteridologist</i>) |
| 1st | Rolf Thiemann: Fertility of some <i>Asplenium</i> hybrids (<i>Pteridologist</i>) |

Photographic Competition. The results were announced by Peter Blake:

- | | |
|----------------------------|------------------------------------|
| Class 1 – Natural ferns | 1st Paul Sharp, 2nd Alison Evans |
| Class 2 – Cultivated ferns | 1st Paul Sharp, 2nd Paul Sharp |
| Class 3 – Fern theme | Joint 1st Sue Olsen and Pat Howard |
| Overall winner | Paul Sharp |

Fred Rumsey said that we need to decide if we are to go digital completely, rather than ask people also to enter prints, but this would need to be discussed with Bryan Smith who runs the competition, due to potential administrative burden.

Item 10 – ANY OTHER BUSINESS

Sandra Cain of the BGCA gave her thanks to the Society for all their help, advice and support with Southport Fernery, which had enabled them to be awarded an RHS Gold Medal in 2018. She particularly mentioned Alison Evans and Michael Hayward, and the fern donations received from the Royal Botanic Garden Edinburgh. She invited members to visit the Fernery.

The Chairman, Fred Rumsey, closed the meeting at 3.05 p.m.

Ann Haskins
Committee Secretary

BPS ACCOUNTS FOR 2019

	2018	2019
ORDINARY ACCOUNT		
INCOME		
Subscriptions (<i>see note 1</i>)	£20,939.13	£19,841.62
Booksales (<i>see notes 3 & 4</i>)	£905.00	£618.00
Merchandise (<i>see note 4</i>)	£1,026.86	£1,159.32
Publications	-	£8,523.24
Inland Revenue Gift Aid	£1,413.14	£1,358.81
Donations	£1,293.66	£336.01
Plant Sales & Spore Exchange	£954.00	£393.40
Prize Money (<i>see note 8</i>)	£200.00	£200.00
TOTAL INCOME	£26,731.79	£32,430.40
EXPENDITURE		
Pteridologist	£4,886.00	£5,319.70
Fern Gazette	£3,952.88	£4,183.87
Bulletin	£7,198.45	£5,613.95
Printing & Stationery	£1,197.35	-
Administration & Postage	£936.92	£780.79
Subscriptions to Societies	£95.00	£95.00
Plant & Spore Exchanges	£147.49	£209.61
Meetings	£657.50	-
Merchandise (<i>see note 4</i>)	£1,037.25	£927.91
Publications	-	£8,442.00
Trustees' Expenses	£454.08	£366.27
Booksales (<i>see note 4</i>)	£78.00	£330.00
Special Awards	£195.51	£200.84
Website	£22.80	-
Autumn Mailing (<i>see note 6</i>)	£636.50	£453.06
Promotion & Advertising (<i>see note 2</i>)	£618.30	£2,054.00
Insurance	£66.00	£357.20
Donations/returned overpaid fees	£50.00	£618.40
Bank Charges (<i>see note 7</i>)	£398.45	£344.16
TOTAL EXPENDITURE	£22,628.48	£30,296.76
Balance (income minus expenditure)	£4,103.31	£2,133.64
Brought Forward from previous year	£11,902.04	£14,971.85
Transfer to Centenary Fund	-£391.75	-
Transfer to Greenfield Fund	-£641.75	-
Transfer from Publications Account	-	£16,701.03
Total in Ordinary Account	£14,971.85	£33,806.52
RESERVE FUND		
Transfer from Ordinary Account	£20,044.15	£20,133.32
Interest	£89.17	£131.88
Total in Reserve Fund	£20,133.32	£20,265.20
CENTENARY FUND (Restricted Account)		
Interest	£26.88	£40.18
Transfer from Ordinary Account	£391.75	-
Interest brought forward from previous year	£132.00	£550.63
Total Interest (<i>see note 5</i>)	£550.63	£590.81
Capital brought forward from previous year (<i>see note 5</i>)	£5,583.73	£5,583.73
Total in Centenary Fund	£6,134.36	£6,174.54

GREENFIELD FUND (Restricted Account)

Interest	£13.67	£19.18
Transfer from Ordinary Account	£641.75	-
Interest brought forward from previous year	£1,486.13	£2,141.55
Travel Grant	-	-£500.00
Total Interest (see note 5)	£2,141.55	£1,660.72
Capital brought forward from previous year (see note 5)	£1,051.00	£1,051.00
Total in Greenfield Fund	£3,192.55	£2,711.72

GRAHAM ACKERS FUND

Brought forward from previous year	£14,676.76	£14,742.05
Interest	£65.29	£96.57
Total in Graham Ackers Fund	£14,742.05	£14,838.61

PUBLICATIONS ACCOUNT

Brought forward from previous year	£14,990.38	£16,701.03
Income	£1,710.65	-
Transfer to Ordinary Account	-	-£16,701.03
Total in Publications Account	£16,701.03	-

SUMMARY

Ordinary Account	£14,971.85	£33,806.52
Reserve Account	£20,133.32	£20,265.20
Centenary Fund	£6,134.36	£6,174.54
Greenfield Fund	£3,192.55	£2,711.72
Graham Ackers Fund	£14,742.05	£14,838.61
Publications Account	£16,701.03	-
Total Funds	£75,875.15	£77,796.60

REPRESENTED BY

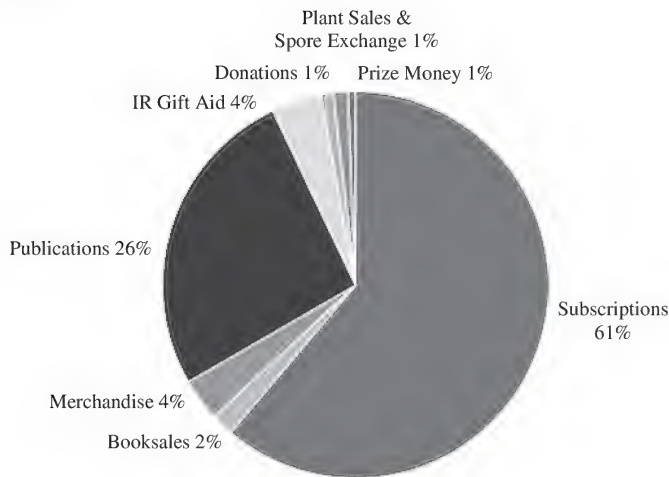
Charitable Organisations Investment Fund (COIF)	£50,569.88	50,857.69
NatWest Bank & Others	£25,305.27	26,938.91
Total Funds	£75,875.15	£77,796.60

NOTES TO THE ACCOUNTS

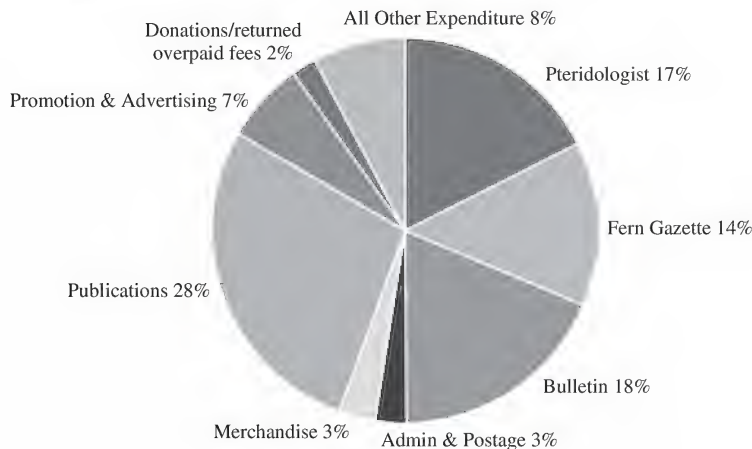
1. The accounts reflect the subscriptions actually received in the year.
2. The Society has been promoting and advertising the Society where possible via the RHS, BBC, county and national shows and public display days. Details of these appear in the *Bulletin*.
3. **Assets:** Stock of Special Publications for retail has a potential value of £9,000. Our three most recent publications (*Polystichum Cultivars* SP7, *Fern Albums* SP15 and *Polypodium Cultivars and Species* SP16) formed the bulk of sales. A further print-run of SP16 is imminent. Booksales stock is estimated at £5,000 with a capital of £6,069. Merchandise has an estimated stock value of £1,600. Unclaimed gift aid at estimated value is £1,500.
Liabilities: Accrued Independent Examination fee: £360.
4. The separate Merchandise account has now been closed. Full details of the Booksales Accounts can be obtained from the Manager. These accounts are checked annually by the Treasurer.
5. The Society has split the two restricted funds into 'Capital' and 'Interest'. The 'Interest' section of the Funds is available for payment as grants; this interest will be 'topped up' with money from donations, plant sales, etc. from time to time.
6. A large proportion of the Autumn Mailing was sent out to members via e-mail. This saved the Society valuable funds on postage.
7. All payments received via PayPal into the bank are net of the bank charges detailed here.
8. The Society was successful at Southport Flower Show. £200 was awarded in prize money.

Peter Blake, Treasurer

INCOME 2019



EXPENDITURE 2019



BRITISH PTERIDOLOGICAL SOCIETY
INDEPENDENT EXAMINER’S REPORT FOR THE YEAR ENDED 31 DECEMBER 2019

I report to the trustees on my examination of the accounts of the above charity for the year ended 31 December 2019. As the charity’s trustees, you are responsible for the preparation of the accounts in accordance with the requirements of the Charities Act 2011 (‘the Act’).

I report in respect of my examination of the charity’s accounts carried out under section 145 of the 2011 Act and, in carrying out my examination, I have followed all the applicable directions given by the Charity Commission under section 145(5)(b) of the Act.

I have completed my examination. I confirm that no material matters have come to my attention in connection with the examination which give me cause to believe that in any material respect:

- the accounting records were not kept in accordance with section 130 of the Charities Act; or
- the accounts did not accord with the accounting records; or
- the accounts did not comply with the applicable requirements concerning the form and content of accounts set out in the Charities (Accounts and Reports) Regulations 2008 other than any requirement that the accounts give a ‘true and fair’ view, which is not a matter considered as part of an independent examination.

I have no concerns and have come across no other matters in connection with the examination to which attention should be drawn in this report in order to enable a proper understanding of the accounts to be reached.

Independent Examiner: **Barrie Buels FCCA FCIE, February 2020**
Crestmere Limited, Chartered Certified Accountants

REPORTS OF OFFICERS & COMMITTEE APPOINTEES FOR 2019

OFFICERS' REPORTS

GENERAL SECRETARY – David Hill

As my own short North Wales Group report attests, I felt disappointed in how little ferning activity I personally had managed during 2019. However, having now been through the reports of the other officers I feel both re-vitalised and relieved. The Society has so many passionate people with so much expertise in such a broad range of skills, and not only pteridological.

The AGM at Harlow Carr in April saw Alison Evans take on the Presidency from Fred Rumsey; Ann Robbins and Sophie Walwin were officially elected into posts, and Laurence Sutton joined our committee. Committee meetings in 2019 were held at the Natural History Museum in London, the Royal Botanic Garden Edinburgh and Cambridge University Botanic Garden. The long agendas successfully worked through at these meetings is a remarkable testament to all those involved, and I for one am relieved that Sue Dockerill recently agreed to take on the mantle of Committee Secretary.

Ann Robbins is quickly making Membership her own, and one important change will be a cut-off date for lapsing memberships; this will hopefully enable more accurate year on year comparison, and also avoid any constitutional issues arising by having non-members voting or being elected at the AGM [non-members may attend an AGM, but cannot vote]. This is not something that is expected to be an issue, but part of a general tightening up on regulations for external scrutiny. This process has also been applied to meetings paperwork and publications, not always an enchanting or rewarding aspect of Society business but necessary. In the near future we hope to be looking more closely at our ecological footprint and examining the effect of some of the decisions we make.

With this environmental focus, one aspect I am very happy to announce, as of the last committee meeting, is the creation of a Monitoring subcommittee. As Fred Rumsey shows in his report, there is still more to find and plenty that needs more up-to-date surveillance. This group, led by Barry Wright, should help fulfil one of the key aims of the Society as we move into a new decade with increasing climate uncertainty and habitat threat.

As our outreach becomes increasingly digital, the change of web host, overseen by Andrew Leonard, went (from an outsider's perspective) extremely smoothly and the website continues to provide an incredible resource and to facilitate Society communications and business. Sophie Walwin in her role as Publicity and Communications Officer got to grips with the many and varied social media elements, which together with the website provide a lot of methods of engaging with both members and the wider public.

At the time of writing, we are in a new decade, and there are many changes ahead. Personally I'm determined to have a proper rummage around in the archives, as well as get out from behind a computer screen more, but until I do I would like to extend a thank you to all who help the Society in so many ways. I so often feel very humbled at all the effort put in by others. I look forward to another decade of the Society going from strength to strength.

MEMBERSHIP SECRETARY – Ann Robbins

During 2019, 66 people joined or re-joined the Society, compared with 79 during 2018. So far in 2020 I have registered 43 new members. Eighty-six members have been with us for over 40 years. As of 10th March we have 772 Active members plus 65 family members. This was made up as follows:

Full members	541
Optional members	127
Complimentary members	12
Honorary members	10
Students	33
Subscribers	49

Subscriptions are due on 1st January each year. Final reminders will be sent out in February and anyone who has not paid by the end of March will have their membership lapsed on 1st April.

It is very important that the membership list is accurate. The best way to keep your data up to date is to enter it on-line (Membership > Change Personal Details) but you can also write to me, text or phone: Ann Robbins, Kirkby House, Scrooby, Doncaster DN10 6AD; 07710 423108; Membership@eBPS.org.uk.

Many members have agreed to receive newsletters and other communications from the Society by e-mail, this is **really helpful** to the Society, reducing costs and increasing the speed with which we can contact you. If you haven't already done so (you only need to do it once) please complete the GDPR form on our website.

MEETINGS SECRETARY – Bryan Smith

The Meetings Subcommittee met in March to review progress on the 2019 programme and to plan for 2020 and beyond. Thereafter, as in previous years, most of our communication was conducted by e-mail. Very reluctantly, we accepted Martin Rickard's resignation from the Subcommittee. After contributing for many, many years, he will be difficult to replace and his input will be sorely missed. If any member is interested in joining the Subcommittee, please let me know.

During the year, as well as our usual input into BPS meetings, we progressed the inclusion of risk assessments and the effects of the Nagoya Protocol on field meetings in our documentation.

We planned an exciting programme for 2019. The first of our field meetings was to the Isle of Wight in May (organised by Paul Ripley and led by Colin Pope), then to Oxfordshire gardens in early July (organised and led by Julian Reed) and east and eastern-central Scotland in mid-July (organised and led by Roger Golding). Our foreign trip was to Germany in early-September (organised by Julian Reed and led by Sabine Nittritz), and the last of our field meetings was to Llangollen and Chirk in September (organised and led by Paul Ripley and Brian and Sue Dockerill).

We began our indoor programme with the Spring Meeting and AGM at Harlow Carr in April (organised by Alison Evans), with talks themed around a fern travelogue. In June, we again had a stand at the Specialist Plant Show Weekend at Wisley (organised by Jude Lawton) and we also had a stand at Fibrex Nurseries (organised by Julian Reed). In August, we took over part of the Wisley glasshouse for a repeat of previous years' weekend-long fern displays (organised by Julian Reed), and we also had our annual stand at Southport Flower Show (organised by Michael Hayward). The finale to our year was the Autumn Indoor Meeting at Stoke Bliss and Kyre Village Hall in October (organised by Martin Rickard) with talks on polypodiums given by BPS members and a visit to Martin's garden. Reports on all of the 2019 meetings can be found in this *Bulletin*.

Details of meetings planned for 2020 were circulated with the Autumn Mailing and are available on the website. It includes trips to Eskdale, Cumbria (July), Seattle, USA (August), Scotland (late-August), South-East Fern Cultivars (September) and South Devon (September). For indoor meetings, the AGM will be at the NHM, London (April) with illustrated talks on tropical and sub-tropical ferns, and the Autumn Meeting will be at Biddulph Old Hall in Staffordshire (November) with talks on UK historic ferneries and fern gardens. There will also be four shows – the BBC Gardeners' World at the NEC Birmingham (June), the Specialist Plant Show weekend at Wisley (June), a BPS fern display weekend at Wisley (July) and Southport Flower Show (August).

As always, the success of the meetings is dependent on the leaders, who voluntarily give up their time and effort. On the Subcommittee we continue to be concerned that the same few people organise and lead meetings, and pleas for more leaders were again made at the AGM and through the Autumn Mailing. Also, in an attempt to improve our meetings programme, we will be inviting all Regional Meeting Organisers to our annual subcommittee meeting in April. Nevertheless, if you fancy organising a meeting, please do contact one of us. The rewards are well worth it, and you wouldn't be going it alone, as we always allocate a Subcommittee member as a liaison point for each meeting. Even if you don't fancy leading, please do let us know if there are any places that you would like to visit and study ferns.

Finally, I would endorse the fine work that Regional Meetings Organisers do in arranging trips 'on your doorstep'. Even if you are visiting an area on holiday, it is worth checking the BPS website or contacting the Regional Organiser to see if there is a meeting you can join.

PUBLICATIONS SECRETARY – Martin Rickard

Once again all our journals have appeared, providing plenty of interesting reading matter to suit all tastes. Happily the editorial teams are unchanged in each case. Alison Paul continues to produce a very high standard *Bulletin*. The *Pteridologist* was a little later than Alec Greening had hoped, but it made up for that by being a bumper size. Please get contributions to Chris Evans by February the 29th (make the most of the extra day!). The *Fern Gazette* has appeared on schedule as usual with excellent scientific content. Non-scientific readers, like me, do glean a lot of information from articles here and there. If you are a member who has opted out of receiving the *Fern Gazette*, may I suggest that the £4 you saved is not always £4 well saved!

2019 was a bumper year for Special Publications – two new ones! Firstly, Michael Hayward's *Fern albums and related material* was published in the spring. It has already been a great success, generating much interest in and outside the Society. It is a tribute to the amazing amount of work and travel miles he put in to accumulate so much interesting information. Who knew that a Miss Wright sold fern albums in the Lake District in the 1840s, or that John Tym sold albums entitled *Mosses of Derbyshire* around 1850 (the album also contained 21 sheets of ferns and lycopods)? Perhaps the most remarkable revelation was that William Paine sold sets of ferns and flowering plants including fern cultivars in the 1730s. Nothing's new! Much, much more about British collectors is followed by a detailed investigation of albums from New Zealand, India, West Indies and elsewhere. The second Special Publication is *Polypodium cultivars and species* by yours truly, which appeared on the 12th October at the Society's Autumn Indoor Meeting at Kyre. It covers species from around the world, and majors on cultivars, particularly cultivars of *Polypodium cambricum*. I have been fascinated by *Polypodium* cultivars since I found my first crenate form on Chudleigh Rocks in Devon in 1967! I am grateful to the Society for publishing it and particularly to Alison Paul for the weeks of proof reading and editing (327 pages takes some time!). I should add that both Special Publications are selling very well, and reprints are a distinct possibility.

The new British fern flora being fronted by Fred Rumsey is still in the pipeline. I doubt it will appear in 2020, but hopefully we will not have to wait too long. It is a major project, to be published in memory of Graham Ackers. The promised reprint of the *Dryopteris affinis* guide is held up by ongoing active research so it might be a year or two before it appears.

Finally, I must again mention the Cultivar Group's on-line Newsletter prepared by Mark Border. Don't miss out, get on-line with Mark at markgborder@btinternet.com. It is of course free to members.

FERN GAZETTE EDITOR-IN-CHIEF – Mary Gibby

Two parts were published during 2019, in May and November, with two further major review articles, the first on pteridophyte distribution in relation to soil type in tropical America and the second on edible ferns and lycophytes in Asia. Two new taxa in *Dryopteris* were described, *D. xcomplexa* nothosubsp. *transsilvanica* and *D. affinis* subsp. *cluthensis*, with both articles generating a lot of discussion among members. Other topics included aberrant meiotic behaviour in haploids of *Woodwardia* species, an inventory of ferns and lycophytes from SW Amazonia, and two book reviews. Again I am very grateful for the assistance of our production editor, Andrew Leonard, the review editors Adrian Dyer, Bridget Laue and Klaus Mehlreter, and other reviewers.

PTERIDOLOGIST EDITOR – Alec Greening

The 2019 *Pteridologist* was published at the end of August and ran to 100 pages plus covers. The printer estimates that 116 to 120 pages is the limit for the postal rate that we use. That sounds like a challenge!

The magazine has another proof reader. Jenny Hakney is a new member of the BPS and a professional proof reader by trade. She is prepared to offer her services free of charge. Many thanks to my other proof readers, Roger Amos, Brian Ottway and Adrian Dyer, and my co-editor, Chris Evans, for their help.

My printer has come up with a few ideas to improve the presentation of the magazine and some of them will be seen in the next edition. They will also be helping with the layout, which will speed up publication so that members can receive the magazine as early as possible. The 2020 issue already looks very promising. If you have an article that you would like published, please contact Chris Evans at Receiving@eBPS.org.uk.

BULLETIN EDITOR – Alison Paul

It is amazing how much we do as a Society, and this is again reflected in another bumper issue of the *Bulletin* for 2019. The *Bulletin* is an archive of our activities but I hope also that people enjoy reading it and that it conveys something of the friendliness encountered in the BPS, perhaps even encouraging some members to try out a meeting or two!

WEBSITE CO-ORDINATOR – Bridget Laue

The BPS website serves as the public face of the Society and is a central repository of information about ferns and BPS activities, as well as a place to buy membership, merchandise and Special Publications. Our website is run entirely by volunteers – the Webteam is Andrew Leonard, David Hill, Roger Golding, Alison Evans and Bridget Laue. We are especially indebted to Andrew for his diligence and creative problem solving in day-to-day maintenance. As a result of this effort the website has no cost to the Society. Thank you also to other volunteers who manage individual pages of the website: Brian and Sue Dockerill (Spore Exchange and Plant Exchange), Bryan Smith (Merchandise), Ann Robbins (Membership), Roger Golding (Where to see ferns?) and Andrew Leonard (What's that fern?). There have been some interesting blogs on the website, but we need more!

There were almost 30,000 uses of the website in 2019, 88% of which were by new users. Of the users 44% were from the UK and 30% from the USA. In May 2019 we changed hosts, to redit.co.uk, because we were finding a slow response in working on the website and were suffering a high level of virus infections. We now find quicker page loading and have not had any hackers since the change-over.

The PayPal function on the website is very useful; there were 27 Merchandise purchases (£505), 291 membership subscriptions, which is 40% of our membership (£8,632), and 33 orders for Special Publications (£1,112). Another important function has been the interactive forms: Join the BPS (78 users), GDPR (17), membership renewal (207), change of details (17), and website enquiries (45). Spore Exchange orders through the website increased in 2019 to 151, now 92% of all orders.

A huge thank you to all who have contributed in many ways. As always, we welcome members' suggestions and comments, and strongly urge everyone to contribute material to the website.

Alongside the website, the BPS has a presence on several social media accounts. Each of these can be accessed from the BPS website, by clicking on the appropriate icon. These offer informal, but important, ways to reach fern enthusiasts outside the Society.

Facebook (Alison Evans reports) As of 1st December 2019, 'Fern World' had 1,792 followers. 'Fern Friday' still seems to be popular – a weekly post of pictures of a particular fern, usually one in cultivation, with some information about it. Posts from other fern pages are shared on Fern World when appropriate. We also post news about our various Fernery projects around the UK. We have a few messages each month, usually from non-members, often asking about identification. You can access Fern World via the 'Facebook' icon on our website, but to see all the content you need to have a Facebook account. If you do have an account, please 'Like' and 'Follow' our page if you have not done so already.

Twitter – See Sophie Walwin's Publicity and Communications Officer report.

Instagram (Chris Nicholson reports) At the time of writing we had 1,710 followers, and we followed 676 others. About 250 posts were made in total, including one of frosty fronds that was 'liked' by 184 people. We have been sharing posts for 'Fern Friday' (#fermfriday). It would be good to have more photographs from BPS outings around the country to promote the Society's activities.

Flickr (Ashley Basil reports) Flickr has a focus on images, many of which are available to download free. The BPS site had 132 members with 3,761 images when this report was compiled. Members are from all over the world and some are very knowledgeable and

doing standout work. For example, ‘Ben Caledonia’ is documenting ferns in New Caledonia, ‘Pete Poytr’ from Sydney (Australia) the ferns of New South Wales, and ‘Pancho Pepe’ is surveying in Chile. Take a look to find out more about it

CONSERVATION OFFICER – Fred Rumsey

In September I was fortunate to be asked to present a summary of the *European Red-list on Ferns and Lycophytes* (see my 2017 report) and to moderate the final session at the IUCN meeting in Brussels, which marked the conclusion of the Red-Listing project for a range of less well known organisms. This work had been fascinating, giving a perspective on the broader threats, or lack of them, to our British and Irish species. Even plants close to local extinction in our flora at a European level were of ‘Least Concern’. Subsequently the discovery of *Stenogrammitis* in Ireland (see Recording Officer’s report) may well give us our first species threatened, and critically so (CR – D), at a European level.

For those species protected under Schedule 8 of the Wildlife and Countryside Act few have seen much active monitoring although arguably none are perceived to have faced serious threats in recent years. Certainly climate change and the increase in severe weather events are sure to have influences, with some species benefiting, e.g. *Vandenboschia speciosa* (Killarney fern) [see my Retiring President’s Address, p.473] where new sporophytic recruitment has been continuing at a range of previously marginal sites, but others, arctic-alpine species – particularly those associated with late snow-lie, are almost certainly adversely affected. Although it no longer has the distinction of specific status, the endemic ecotype of the Alpine lady fern, previously *Athyrium flexile* but now treated in the genus *Pseudathyrium* as a variety of *P. distentifolium*, warrants our close attention following on from the detailed studies made by Heather McHaffie. Similarly, careful monitoring of the last remaining English population of *Spinulum annotinum* (*Lycopodium annotinum*), lost further south in Snowdonia in the late Victorian period, I would suggest should also be a priority.

We live in uncertain times, with considerable environmental and economic issues often acting in tension. The threat to Askham Bog in Yorkshire through a housing development, mentioned in last year’s report, sadly remains. The Society has added its voice to the campaign organised by the local Wildlife trust. While some may feel uncomfortable about the Society taking what could be seen as a political stance, the Executive feel strongly that supporting the protection of the plants we value through expert advice, education and, where necessary reasoned protest, is entirely consistent with our status.

EDUCATION OFFICER – Gill Smith

Once again a variety of activities and events were held across the country to bring ferns to the attention of a wider audience.

The RHS Wisley Specialist Plant Show in June was again successful. The display set up by Jude Lawton and ‘local’ members was superb and attracted a lot of public interest. Also in June, Fibrex Nurseries held their own fern event, ably assisted by Julian Reed and other Society members.

There was a change to the RHS Wisley ‘fern specific’ weekend in August. As the RHS had asked for this event to be even bigger than in previous years, it was decided to ask BPS members with nurseries to attend, and both Fibrex and Crawford Hardy Ferns brought along plants for sale. Again a great display of ferns by members of the SE and East Anglia Groups was accommodated in the Glasshouse. The footfall was good and the place was humming with activity over both days. The public were very impressed with the plants and spent well both on these and our Society Merchandise, and we managed to recruit another six members.

Julian Reed takes the prize for ‘most events attended’ – he did presentations to Mid Anglia Alpine Society in January, Woking Alpine Society in early March and North Warnborough Garden Club AGM in November. At each a wide range of fern fronds were brought for identification and BPS information leaflets were handed out. He also went to Great Dixter in the autumn with a stand for the *Polypodium* National Collection; he sold plants, with the profit going mainly to the BPS, a donation to Great Dixter Bursary fund and also a small donation to Plant Heritage; again BPS leaflets were popular. Alison Evans did a fern ID session at Edge Hill University for students (undergrad and Masters) on the Field Botany

module in June and another in the autumn, she also did a Fern Workshop at the World Museum Liverpool in July and a talk to Scarborough Field Naturalists' Club in September. Peter Blake gave talks to two garden societies in East Anglia and again made our Education leaflets available for the public. Jude Lawton gave talks to garden societies, almost all in Kent with occasional forays into Sussex and Surrey. One of her talks is 'Ferns for your garden'. Most of the plants she talks about are hardy and reasonably easy to find, and she covers growing, propagation, and pests and diseases.

At Southport Flower Show Michael Hayward and Society members again won a Gold Medal for an excellent display of Ferns. Merchandise was sold but no new members recruited. Michael also assisted Mike Roberts, a Ness Garden trainee and BPS member, who asked for help with his project, recording the ferns in Ness Gardens. Mike has copied to the BPS his audit so far, and acknowledged the help that he had been given.

In Scotland, they again had a busy year. In June, Liza Downie, Chris Nicholson and Bridget Laue hosted a brunch at Bridget's house and garden for new members. Eight new members attending had a chance to meet each other, and to see and talk about ferns. Chris presented a slide-show on her favourite ferns. BPS Scottish members have established connections with several gardens in Scotland for the purpose of promoting ferns. In August, Chris, Liza and Bridget, together with Alison Evans, visited Rouken Glen Park in East Renfrewshire at the invitation of their education ranger, who gave them a tour around the park to see what ferns were on site. They developed a plan to hold a public workshop in July 2020 to identify and learn about ferns. Members also visited Cambo Gardens, on the east coast of Fife, and Branklyn Garden (National Trust for Scotland) in Perth, to discuss supporting the development of their fern collections. In September they were invited to participate in Doors Open Day at Glasgow Botanic Gardens. Chris Nicholson organised this, with several Scottish BPS members participating. This event allowed members of the public to visit buildings not usually open to them, such as the Filmy Fern House, and an exhibition of pteridological herbarium specimens; BPS educational exhibits and children's activities were staged in the Kibble Palace. More than 3,000 visitors enjoyed these activities. In November, Scottish BPS members participated in the annual Scottish Botanists' Conference at the Royal Botanic Garden Edinburgh for all botanical groups in Scotland (including BSBI, BSS). The BPS had an exhibit with posters, leaflets and books to present information about ferns and about the Society. Nadia Russell presented a poster of her PhD research project on the conservation of *Woodsia ilvensis*. Heather McHaffie taught two very popular workshops on fern identification, while Mary Gibby presented examples of ferns in the herbarium collection. With more than 200 people attending, it was a very lively day.

As you can see there is a lot of evidence that we certainly fulfil our charitable duty to promote the study of ferns! If you have had an event in which you have promoted our Society, please send me details so that we have a record for our archive. My sincere thanks goes to all those who give their time to help with the running of the various events, shows, trainings and meetings – and especially to the Education Group, without whom much of the content of this report would not be possible.

PUBLICITY & COMMUNICATIONS OFFICER – Sophie Walwin

I've been in the post of Publicity and Communications Officer for almost one year and it has been a busy one. Since taking the role I have accepted and started a job as Head Gardener at an Oxford College, which limits the time I can give to my work for the BPS.

I attended the Specialist Plant Show in June and the BPS Fern Show in August, both at RHS Wisley Garden, sharing photos of the event on Twitter as the events were happening to gain more attention and attract visitors to future shows.

The Autumn Mailing was a success; thank you to everyone who contributed to the content and to Membership Secretary Ann Robbins for sending it out to our members so professionally.

Contributors to our social media feeds have been busy: Alison Evans on Facebook, Chris Nicholson on Instagram, and David Hill and me on Twitter. The Twitter feed gained over 400 followers during the year (current total exceeds 2,700 people), which is really positive. We covered a few stories such as our RHS Wisley Fern Show in August, the 'Glasgow

Doors Open Day’ fern-focussed weekend at Glasgow Botanic Gardens and the ‘Big Botany Day’, a symposium about plant science education in secondary schools, hosted by the University of Reading and featuring BPS collaborator Robbie Blackhall-Miles.

Across all our social media platforms a different fern is featured every week for the ‘Fern Friday’ item and this often gets a good response and prompts interesting comments and dialogue. We often gain more followers after this weekly feature too. Improving the frequency and quality of fern-related discourse on social media is of great importance.

Our exciting collaboration with the Cumbria-based clothing company BrotherWolf (ourbrotherwolf.com) has developed as they now donate £5 of every sale of the adult ‘FronD Friends’ t-shirt to the BPS, which is incredibly generous and gratefully received. They promote animal and plant conservation at re-wilding events and through their website. They have included a link to our website through their ‘Environmental Education’ page.

It would be good to further promote our Society, celebrating our events, awards, endeavours and triumphs. I’m hoping to recruit another publicity and communications officer this year to provide material for our website and blogs.

COMMITTEE APPOINTEES’ REPORTS

RECORDER – Fred Rumsey

My thanks once again to all who have alerted me to finds, or have sent their records to me and their local BSBI Recorders. By the time you read this all of the records for inclusion in Atlas 2020 should have been submitted and the processes of validation, analysis and finally the production of text will be under way. This has been a gruelling process for Vice-county Recorders, not least because of the wonderful efforts by so many, which have seen far greater numbers of records made and at a much more detailed scale. Thoughts are, however, turning to what comes next and here I think we can give a lead with some of the detailed monitoring work that some of our regional groups and keen individuals have been making. The Yorkshire Group have several initiatives running and this year saw the completion of the survey of the Yorkshire Dales populations of *Polystichum lonchitis*. Additional information from Mike Porter (Cumbria) and John Durkin (North Pennines) has enabled a total English coverage. This is a superb and very detailed piece of work, which is already informing conservation actions. The total population was estimated to be about 550 individuals present in 17 locations, more than had previously been thought. It is hoped that a similar study might be completed in Wales where our knowledge is still lacking. I have long hoped that other local groups might take on the survey of nationally rare species where they occur in their area, or consider the possibility of long-term monitoring at particular sites. Barry Wright has agreed to lead this BPS monitoring initiative and I’m happy to advise.

Work continues on the revised Census Catalogue, giving distributions at the vice-county level for all of the species, subspecies and varieties, both native and naturalised. It made sense to delay the completion of this until the Atlas data was in so that a more accurate picture of the current distributions could be made.

Following the report last year of the discovery of the critical moonwort segregate *Botrychium nordicum*, members have been sending records of morphologically similar plants. It is to be hoped that molecular work might be carried out to confirm their identity and establish whether all plants with incised pinnae are this taxon.

The most exciting find this year, for which a paper is in preparation for the Society’s journal, was the sensational discovery this summer by Rory Hodd (BSBI Recorder for Co. Kerry) of *Stenogrammitis jamesonii* (Hook.) Labiak, in a remote area within the Killarney National Park. This very small saxicolous plant’s nearest localities are on montane rocks in Central and South America but it is growing in Ireland with a range of bryophyte species that show comparable world distributions and disjunctions, and I believe it to be native.

While on Ireland it is worth mentioning the recent discovery of *Dryopteris oreades* in v.c.H2 by Mark Jannink. This is the first record for this vice-county although likely to be a site discovered first by Alan Willmot in 1982 (see *Fern Gazette* 12: 260); the single patch sits just over the watershed that forms the North/South Kerry border. I was also able to confirm the

species' presence in v.c.H1 from material sent by Rory Hodd. There have been only two post-2000 Irish records for this species, which, while undoubtedly rare, could be being overlooked. It was placed on the Irish Red-List (2016) waiting list, presumably through lack of data.

Interesting alien taxa continue to be found. Andrew Leonard's discovery of a small *Asplenium sagittatum* on a sheltered wall at his property, presumably self-sown from a plant in his collection but under glass is the first record for this essentially Mediterranean species.

SPORE EXCHANGE ORGANISERS – Brian & Sue Dockerill

These statistics give an overview of the main Spore Exchange for 2019.

	2013	2014	2015	2016	2017	2018	2019
No. taxa in list	374	441	503	459	452	405	402
No. orders received	99	115	98	96	135	155	164
No. packets supplied	1,548	2,015	1,703	1,568	2,331	2,486	2,664
No. first choices supplied (%)	1,276 (82%)	1,795 (89%)	1,526 (90%)	1,400 (90%)	2,024 (86%)	2,077 (83%)	2,220 (85%)
No. donors	35	31	32	32	39	36	40

We are pleased to say that the Spore Exchange remains popular with members, with the number of orders continuing to rise. The use of the web-based ordering system is also increasing, with over 90% of orders coming by that route. As in previous years, the support of Andrew Leonard has helped enormously.

We again supplied spores to the Seed Exchange of The Hardy Plant Society.

We continued to supply short viability spores separately, and the statistics for this are shown below.

	2016	2017	2018	2019
No. taxa donated	9	11	11	13
No. donors	4	6	7	7
No. packets supplied	40	30	39	63

As always, we are very grateful to the spore donors, without whom there would be no Exchange. We are extremely pleased to see the number of donors rising and if anyone is interested in becoming a donor, we are very happy to offer advice, or they can look on the website for help.

PLANT EXCHANGE ORGANISERS – Brian & Sue Dockerill

The following gives some statistics for the current web-based scheme, with the related figures for the previous paper system in 2015.

	2015	2016	2017	2018	2019
No. taxa available	77	32	22	62	44
No. donors	8	6	5	5	7
No. taxa wanted	n/a	19	25	41	49
No. requestors	9	5	8	13	15

This year there was a reasonable number of ferns listed for exchange. Although the total list is lower than last year, in fact the number newly added (18) was comparable with last year (13), the difference in total being caused by a large number being removed. For those we personally listed, this removal was due to the plants on offer all being requested, suggesting that the fluctuation in numbers reflects the take-up of plants. Overall, we feel this aspect of the system is working well, albeit on a moderate scale.

For plant wants, the number requested continues to rise, although for the first time two were removed as requests. This may reflect some ferns being supplied. Overall, this aspect of the system is working less well, probably because the plants requested do not seem to be available within the membership.

Both aspects of the exchange are advertised in the Autumn Mailing and other communications, and with all spores sent out from the Spore Exchange.

We also offer to send out a paper list on request, and again one person took advantage of this.

BOOKSALES ORGANISER – Frank Katzer

Last year, 2019, was a relatively steady year for BPS Booksales, with some book acquisitions (a collection of books from John Barnett and the purchase of the new Benmore book) and a steady sale of books. Booksales had a turnover of £618 and made a surplus of £288, which will allow me to increase stock levels during 2020. I would be grateful if you could let me know if you become aware of any new fern books before they are published so that I can contact the publishers in order to get a better deal for our members.

As always, I would like to thank Yvonne Golding for her help during 2019. Yvonne has taken fern books to meetings that I could not attend and this has helped to make them available to many more BPS members than I have contact with.

As always, BPS Booksales will welcome donations and bequests of books or offers to purchase either individual books or whole book collections. Please keep in mind that the prices offered cannot be internet prices but if you sell books to dealers, they will not offer sales prices either. To contact me please use my work e-mail: Frank.Katzer@moreun.ac.uk or the Booksales e-mail: Booksales@eBPS.org.uk. I can also be contacted by post: Frank Katzer, Highfield House, Muirburn, Skirling, ML12 6HL, Scotland or by phone 0044 (0)1899 860 307.

BACK NUMBERS OF JOURNALS ORGANISER and SPECIAL PUBLICATIONS SALES – Pat Acock

Back numbers of our journals continue to sell. *The Fern Gazette* is the slowest to go, but it surprises me that while electronic copies of older parts are free, I still get occasional orders from long-term professionals for a hard copy. The *Bulletin* sells between five and ten copies a year, with the odd whole volume requested. The *Pteridologist* is our best seller with members, with many parts of Volumes 5 and 6 now sold out. Usually these go to newer members who are anxious to build up their collection, in particularly more recent issues. I think the format contributes immensely.

The two new Special Publications were the success story of 2019. *Fern albums* sold 100 copies, however, probably our fastest seller of all time has to be *Polypodium*, with 200 sold in the first two months. The second editions of two older publications are still good sellers, with *Fern names and their meanings* selling around 20 copies and *Polystichum cultivars* about 35. I tend to sell between one and six copies of the others.

My annual plea for someone to take on the role of Back Numbers of Journals and Special Publications Sales Organiser still stands, though I have at last found storage facilities with two people who should out-live me barring accidents, one in Rutland and the other in Nottingham. Thank you to you both.

MERCHANDISE ORGANISERS – Bryan & Gill Smith

It was another successful year and the number of orders rose to 29 – BUT only one order was from outside the UK!

Sales of clothing went very well, especially the baseball cap – an item that we had resisted buying in the past! Due to a last-minute stupid accident, we were unable to attend the AGM in Harrogate. Fortunately Peter Blake was able to take some items that had already been gathered together to take for members in the North to sell, so we did manage a few sales there.

We again had very successful face-to-face sales at the August BPS fern weekend hosted by RHS Wisley, where we sold over £300 worth of Merchandise to the general public – and gained another three members. The Autumn Indoor Meeting at Kyre saw Society members and their friends spending another £170+ on Merchandise.

The FSC *Field guide to common ferns* and the BPS *What's that fern* waterproof leaflets are still our best-selling items.

The Committee decided that we should carry on for another year with the calendar, and much to our surprise, they were all sold by the end of November! So we still need YOUR PHOTOS!! Please send entries to us for the Annual Photo Competition as directed in the Autumn Mailing and, if you like a fern-themed calendar and you want the BPS one to continue, please do buy one at the AGM!

We have had a few good suggestions for different items and we are following up on these. What we do need is a good greetings/message card supplier, as our previous commercial supplier became too expensive. If you come across some fern-themed cards that we could sell to members, please get in touch with us via Merchandise@eBPS.org.uk.

Finally, we would like to take this opportunity to thank other BPS members who regularly sell Merchandise for us at Southport Show, at talks given to other plant societies and to the public, at Regional meetings and anywhere else as opportunities arise – THANK YOU!

HORTICULTURAL INFORMATION ADVISER – Matt Busby

It was another quiet year for me. I rarely receive requests for information on the cultivation of ferns from members. Perhaps that is because we now have a lot of good fern books written by authors who have a wealth of personal experience in cultivating ferns, as well there being an abundance of information available on the internet. I would also like to feel that the Society's regional meetings are a very good source for disseminating such information amongst local members. However, I am sometimes approached by non-members who learn of my obsession with growing ferns and ask me why a particular fern has died, where they can obtain replacements or which ferns might be suitable for home or garden. I never fail to mention the existence of our Society and what a rich vein of information is available to anyone who joins.

ARCHIVIST – Michael Hayward

All of the photographic material in the archive and the bulk of the historical textual material has now been scanned, enabling me to access material and answer queries promptly. More obscure material is scanned and added to the digital archive whenever specific enquiries are received. It is still necessary for requests about material to be directed to the Archivist, and it will remain so for the foreseeable future, but most requests can be confidently answered without delay. Two members visited the archive in person to search through the books of Drury's press cuttings and other material during the past year.

Work has continued in sorting our collection to bring like material together in the same boxes whenever possible, and, whilst reviewing the material, expanding the field entries in the database by lengthening item descriptions and adding keywords.

There has been a steady flow of requests for information during the year, several of which were requests for images of past members. Our collection of personal photos in the archive is very patchy, and many of our images have no names attached to them! Good photographs of individual members are particularly valuable. If you have any such photographs please do get in touch with me. I can scan them and return them to you if you wish to keep them.

New material received during the year includes a good Birkenhead Brothers illustrated fern catalogue and a set of original illustrations made for his own fern catalogue from John Barnett, a previous member, a number of illustrations of ferns made by Ray Best for an Australian fern society, from Martin Rickard, and a booklet on George Whitwell produced by the Kendal Civic Society, from Alison Evans.

The staff of the Botany Department at the World Museum Liverpool continue to give us every support and I am most grateful for their kind assistance.

CULTIVAR REGISTRATION SUBCOMMITTEE – Roger Golding

Progress continues to be slow. However, the database of *Polypodium* names is essentially complete. Some additional research is required, but the main challenge now is to make sense of the mass of data and to make decisions about the status, validity and priority of names. If anyone is interested in being involved in this project please get in touch.

OBITUARIES

ROBERT (BOB) JAMES JOHNS

1944 – 2019

Robert (Bob to his old friends) was born on 14th July 1944 at Kaitia in northern New Zealand and later moved south to Auckland, where he was educated at Papakura High School and Auckland University. He graduated from the university with a BSc in Botany and Geography in 1966 and an MSc in Geography in 1968.



photo: Tim Utteridge

Bob Johns in Indonesian New Guinea in 2000
holding an inflorescence of *Musa johnsii*,
a wild banana named in his honour

In early 1968 Bob moved to Papua New Guinea and developed an abiding fondness for the country, its flora and its people. He was a Research Assistant for the Australian National University project on Mt Wilhelm, the highest mountain in Papua New Guinea, then moved to the Division of Botany, Department of Forests, in Lae. In 1971 he co-authored a checklist of Mt Wilhelm plants (Johns & Stevens 1971) that is still useful today. In 1971 he took up a position at the Forestry College, Bulolo. During his time there he wrote a series of student guides to the ferns and fern allies of Papua New Guinea, illustrated by Armstrong Bellamy, that are a model of their kind, with descriptions of genera and species, illustrations of species, details of distribution, including maps, and ecology (Johns & Bellamy 1979; Johns 1981a & b). They are based on material examined by Bob in the national herbarium in Lae and seen during numerous visits to the herbaria of Kew, the Natural History Museum and Leiden, and contain several first records of species from New Guinea. In 1979 he moved to the

Department of Forestry at the University of Technology, Lae, as Professor of Forestry.

In 1990 Bob moved to the Royal Botanic Gardens, Kew, as a Senior Scientific Officer (SSO), Head of the Fern Section, a position subsequently renamed more grandly as Curator of Ferns and Lycophytes, from which he retired in 2004. During 1991 and 1992 he collected ferns extensively in Brunei, gathering new species and new records for the country. He co-organised the Pteridology in Perspective symposium at Kew back-to-back with Flora Malesiana III in 1995. He also organised two major plant collecting expeditions to Indonesian New Guinea, to the Bird's Head Peninsula in 1995 and to Mount Jaya from 1997 onwards. Both were extremely successful in expanding our knowledge of the flora of New Guinea and led to the description of numerous new vascular plant species, including three new tree ferns collected by him from the Bird's Head, and *Alsophila johnsii* Lehnert, *Calamus johnsii* W.J.Baker & J.Dransf., *Elaeocarpus johnsii* Coode, *Musa johnsii* Argent and *Pilea johnsii* A.K.Monro. After the International Botanical Congress in Sydney in 1981 Bob organised the post-congress fern field trip to Papua New Guinea for an international group of fern botanists. Post-retirement, he returned to south-eastern Papua New Guinea to manage a plant collecting programme for the Botanical Research Institute of Texas (BRIT), then finally returned to England.

During Bob's time in Papua New Guinea (1968-1990) he was the go-to person for many botanists who visited the country. He was the provider of important contacts for getting around, as well as food, drink, accommodation, and sound advice for those new to New Guinea, which enabled them to make the most effective use of their time. He is remembered for his cheerful nature, irreverent sense of humour, skills at ball-room dancing, can-do attitude, being a great host, an even better guest, and a loyal friend since 1963.

Bob was a member of the BPS from 1985 to 1999.

Many thanks to Timothy Utteridge, RBG Kew, for permission to include the photograph and some information from his obituary of Bob.

Barbara Parris

Selected Publications

- Camus, J.M., Gibby, M. & Johns, R.J. 1996. (Eds.) *Pteridology in Perspective. Proceedings of the Holtum Memorial Pteridophyte Symposium*, Kew 1995. Royal Botanic Gardens, Kew. 700 pp.
- Johns, R.J. 1976. *Common forest trees of Papua New Guinea*. Papua New Guinea Forestry College, Office of Forests. 529 pp., published in twelve parts.
- Johns, R.J. 1977. *The vegetation of Papua New Guinea*. Training manual for the Forestry College. Volume 10. Forestry College, Bulolo.
- Johns, R.J. 1981a. *The ferns and fern-allies of Papua New Guinea*. Parts 6-12. The Papua New Guinea Institute of Technology.
- Johns, R.J. 1981b. *The ferns and fern-allies of Papua New Guinea*. Parts 13-14. The Papua New Guinea Institute of Technology Research Report R 48-81.
- Johns, R.J. 1982. *New Guinea ferns and fern allies*. The Papua New Guinea Institute of Technology Research Report R 49-82.
- Johns, R.J. 1986. The instability of tropical ecosystems in New Guinea. *Blumea* 31: 341-371.
- Johns, R.J. 1991. *Pteridophytes of Tropical East Africa: a preliminary check-list of the species*. Royal Botanic Gardens Kew. 131 pp.
- Johns, R.J. 1995a. *Papuacedrus papuana*. Plate 266, *Curtis's Bot. Mag.* 12(2): 66-72.
- Johns, R.J. 1995b. *Lecanopteris lomarioides*. Plate 270, *Curtis's Bot. Mag.* 12(2): 89-95.
- Johns, R.J. 1995c. Endemism in the Malesian Flora. *Curtis's Bot. Mag.* 12(2): 95-110.
- Johns, R.J. 1996. *Index Filicum – Supplementum sextum pro annis 1976-1990*. Royal Botanic Gardens, Kew. 414 pp.
- Johns, R.J. 1997. (Ed.) *Holtum Memorial Volume*. Royal Botanic Gardens, Kew. 272 pp.
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- Johns, R.J., Edwards, P.J., Davies, R. & Challis, K. 1997. *Index Filicum – Supplementum septimum pro annis 1991-1995*. Royal Botanic Gardens, Kew. 124 pp.
- Johns, R.J. & Stevens, P.F. 1971. Mt Wilhelm Flora. A check list of the species. *Bot. Bull. Dep. Forests Papua New Guinea* No. 6.

PETER HANS HOVENKAMP

1953 – 2019

In July 2019 a flash flood in a cave in Sarawak tragically took the life of one of Europe's foremost pteridologists, Peter Hovenkamp.

Peter was born in Utrecht in the Netherlands. He studied biology with geology at the University of Leiden, where he also obtained an MSc in biology. It was during this time that he met and married a fellow intern, Gerda van Uffelen. Peter went on to be the first of Bert Hennipman's PhD students at the Rijksherbarium, Leiden (now Naturalis Biodiversity Center), followed later by Gerda. In 1988 he secured a part-time post there as fern researcher, a position he held until his untimely death.

Peter's first major contribution to pteridology was his PhD monograph of the genus *Pyrrosia* in 1986. In 2017 a new genus for the *Pyrrosia africana* species group was named *Hovenkampia* in his honour. Peter subsequently published over 100 papers covering a wide range of subjects including biogeography and cladistics. He continued to study Polypodiaceae and many other fern groups, which enabled him to play a



photo: courtesy Gerda van Uffelen

Peter Hovenkamp, 2015

key role in the Pteridophyte Phylogeny Group's publication in 2016. Peter had a very good eye and a sharp mind and was not afraid to tackle difficult genera, e.g. *Nephrolepis*, for which he produced a world conspectus in 2005. He had been making good progress untangling *Diplazium* for *Flora Malesiana* but sadly it remains unfinished. Peter loved fieldwork and went on expeditions to New Guinea, Kalimantan and Sabah. He taught on many different courses, and developed a new course in advanced taxonomic skills. He was always keen to learn and develop new techniques and to find better ways of handling data, using his considerable computing skills to develop his own programs.

Peter was not a BPS member, but at the 2008 Spring Meeting at the NHM gave a memorable talk on *The jumping spores of the Jurassic*, describing his investigation into the dispersal of *Angiopteris* spores, which involves cavitation (see 2008 *Bulletin* p. 28). He was very active in the Dutch fern society, Nederlandse Varenvereniging, and contributed many articles to their journal, *Varen Varia*, as well as serving as its editor. Peter's English was excellent, and combined with his meticulous and critical nature this made him an exceptional editor. He was Associate Editor of *Cladistics* for a few years and since 2008 had been Editor-in-Chief of *Blumea*, a scientific journal of Naturalis.

I first met Peter early in 1981 when he visited the Natural History Museum to study and identify our *Pyrrosia* specimens. I always looked forward to his visits over the years to work in particular through the NHM's extensive Malesian collections. He was good company and had a unique sense of humour. Peter had a life-long interest in natural history and was active in various Dutch groups that he invariably helped to run. He was also a gourmet cook, had an extensive knowledge of wine, and played bass clarinet in a concert band.

Peter is greatly missed by the fern and botanical communities worldwide, but especially by Gerda and their two sons, to whom we send our sincere condolences.

Many thanks to Marco Roos for permission to use information from his obituary of Peter with Peter van Welzen and other Naturalis colleagues. For that full obituary and a list of Peter's publications, see *Blumea* 64: v-ix, 2019.

Alison Paul

VERONICA CROSS, formerly Adams

1933 – 2019

I first met Veronica in 1991 when she visited our embryonic fern nursery while on a nursery tour of Herefordshire. On that day she bought many plants, including some ferns, and continued to amass plants, any plants, right up to her death. Veronica's specialities were snowdrops, tree paeonies, magnolias and anything else interesting and preferably rare – including ferns. She eventually joined the Society in 2010. She moved to Lower Hopton Farm in about 1991, acquiring a four-acre site that had not been seriously gardened. It was, however, not quite a blank canvas because she inherited an ancient island, which greatly added to the site's character.

Over the years her fern collection grew to include many rare cultivars of the hardy British species. Some of her favourite days were the regular trips to Fibrex Nurseries to stock up. She also branched out into exotic fern species, some doing remarkably well in her heavy Herefordshire clay. Her garden was visited by the South Wales and Borders Group of the BPS, and on a separate occasion she held a fern lunch. This was a gathering of local pteridophiles, on a much smaller scale than the fabled pair of snowdrop lunches she held each spring, for both of which she provided a splendid sit-down dinner for 25 to 30 ravenous galanthophiles, ably assisted by her son Ben and her husband Giles.

It seemed that everyone in the gardening world knew Veronica. Her visits to the Chelsea Flower Show were largely one long conversation with everyone she met. In 2014 she featured as 'Who's who' in *Gardens Illustrated* (February 2014, p.72-73). She was a very talented lady, doing everything to the highest standard or not at all. She was a fine horsewoman and artist, beautifully painting blank white porcelain from the Worcester factory with flowers (mainly snowdrops), shells and of course ferns, then fixing the work by firing. She was a wonderful hostess and her enthusiasm for plants and terrific sense of fun will be greatly missed by gardeners – and pteridologists – in the Welsh Marches, and far farther afield.

Martin Rickard

FRANCES HAIGH

1941 – 2019

Frances, who died in December 2019, led a very active life. She was a keen hill-walker, cyclist and camper and had a permanent interest in natural history. In particular she had a long-standing amateur interest in botany, which strengthened over the years. After attending a course on fern identification at Blencathra Field Centre near Keswick, she joined the Society in 1995, becoming a keen member of the North-West of England and Yorkshire Regional Groups, and attending their meetings whenever possible. She led four field trips for the NW Group, to Arnside Knott and Grubbins Wood NR, South Lakes (2004), Leck Beck Head, South Lancashire (2005), Scordale near Appleby, Cumbria (2010), and Gait Barrows NNR and Arnside, Cumbria (2011). Frances also encouraged interest in pteridology among Arnside Natural History Society members, leading a group of them on a search for ferns on Whitbarrow Scar NNR in the South Lakes. She was Secretary/Organiser of the NW Group from 2001-2003, and subsequently Treasurer for three years.

Frances's main interest was rather in pteridophytes in the natural environment than in cultivars, but she did establish a good number of ferns in her garden, including a now-magnificent *Osmunda regalis*. Her attentiveness to detail served her well in studying the minutiae of identification.

Unfortunately Frances became ill in 2015 and spent the last four years of her life in a care home, but as long as she was able, she enjoyed hearing reports and articles from the *Pteridologist* and *Bulletin*. She is survived by her husband Charlie who, though no botanist, accompanied her on many field trips, and by her daughter Gill and sons Graham and Stephen. She is sadly missed, not only by her family but also by the many members who knew her.

Charlie Haigh & Robert Sykes

SUZANNE (SUE) MARY NORMAN

1941 – 2019

With her husband Roger, Sue joined the Society in 2003 although she had been interested in ferns for some years. She became widely known within the Society for her gardening prowess, the plant nursery and her great interest in the wild flora, not just ferns.

Sue was born on the 20th October 1941. She met Roger in about 1960 and they married in 1967, so celebrated their Golden Wedding anniversary a few years ago. Sue was a school teacher from 1964 until 1982, at which time they moved to Marley Bank, a pleasant cottage with a steep garden reaching down to the road about ten miles west of Worcester. They gardened here until 1996, largely pursuing a love of alpinism, and starting a small alpine-themed nursery. The steep site became a bit of a bore and was not large enough, so they had to move! Eventually they found Ivycroft, a semi-derelict but charming cottage with about five or six acres of undeveloped land two or three miles south-west of Leominster. To visit the site today, and see their beautifully restored cottage set in a truly amazing garden, is a wonder. Every tree on site was planted by Sue and Roger and all the beds were created by them to their own designs. As time went by they did have some part-time help – essential on a site that size and with the development of the nursery business. Alpines and ferns featured strongly in the nursery, and gradually snowdrops were added to the list of specialities. Sue, sometimes with Roger, became a regular attendee of specialist plant sales in the west Midlands and the Welsh Marches.

The fern collection was excellent and beautifully grown. Exotic species mixed happily with British cultivars. *Polystichum setiferum* 'Bevis' progeny were a speciality, polypodiums flourished in variety, tender specimens thrived in their conservatory – Sue had lovingly cared for a magnificent *Cibotium glaucum* with fronds almost touching the roof, plus *Dicksonia fibrosa* and *Cyathea* (now *Alsophila*) *podophylla* (from Taiwan) as long-term survivors.

Sue and Roger were frequent attendees of BPS indoor and field meetings, especially the South Wales and Borders Group meetings, run so efficiently by Brian and Sue Dockerill. Living within half an hour of them, I often met up with Sue and Roger, frequently car-sharing to meetings. Our last such jaunt was in 2018 to visit the sites for *Trichomanes* (now *Vandenboschia*) *speciosum* in Yorkshire, kindly led by Alison Evans, en route to the BPS national meeting in Leyburn. It is astonishingly sad to think that within a month or so of that happy meeting Sue was struck down with a stroke. She was virtually immobile but retained her very active mind. She died suddenly in the autumn. I had visited her only ten days previously and was convinced she was on the mend. Very sadly I was wrong.

Locally, she and Roger were members of the Herefordshire group of Plant Heritage and the Hereford Botanical Society. My own, and I'm sure the sympathies of all who knew Sue, go to Roger. We look forward to continuing to see him at BPS meetings.

Martin Rickard

ALFONS (FONS) SLOT

1951 – 2019

Back in 2007, when I attended a meeting of the Dutch fern society, De Nederlandse Varenvereniging, for the first time, I was immediately greeted by a few people. One of them was Fons. In the years that followed, Fons turned out to be an exceptionally social person, always seeing the positive, always friendly and helpful. He was very active in the society and not only as a member (since 1994!) – he was a former board member and Chairman. He was also present at most of our activities, and at many fairs and markets Fons was there to help on our stand. Our society is healthy and on a firm foundation, largely because of Fons, one of its pillars from the earliest days of the society.

As a garden enthusiast he visited many plant fairs, markets and nurseries, and in the Netherlands as well as abroad you'd have a fair chance of running into Fons and his wife Hennie looking for new additions for their garden. They loved to join fern trips abroad. Fons knew and was in contact with more than a few members of the BPS, which he joined in 2009. When Fons was already seriously ill, we were fortunate to spend a couple of joyous days at a plant fair in Utrecht where he could share his enthusiasm for ferns. The visit by members of the BPS to his garden in Blitterswijk in the summer of 2018 was something he was very much looking forward to. He enjoyed it immensely and he even arranged for Martin Rickard and Cor van de Moesdijk to meet again after 35 years (!). That's the kind of man he was. Sowing ferns from spores was not something Fons was keen on doing but you couldn't tell by looking at his garden and fern collection! He had a vast network of fern and garden enthusiasts with whom he exchanged many plants.

Fons, thank you for all the numerous things you did for De Nederlandse Varenvereniging but especially for your collaboration, socialising and support over the years. What a loss.

Bart Hendriks

IN MEMORIAM

We were also sorry to learn of the death of the following (date joined BPS in brackets):

Dr David Batten of Leominster, Herefordshire (previously Aberystwyth) (1972)

Dr Jose María Gabriel y Galán of Madrid, Spain (member 2010-2017)

Mrs Margaret Kennedy of Co. Down, Northern Ireland (2013)

Mr Brian O'Shea of London (member 1975-2007)

Mr Brian Russ of Ormskirk, Lancashire (1999)

BPS MEETINGS CODES

If you take part in a BPS meeting, you must first have read the BPS Safety Code and the Code of Conduct for picking, collecting, photographing and enjoying wild plants. To confirm that you agree to abide by these, at the start of each meeting you will need to sign a 'BPS Meetings - Participants Declarations' form, which the meeting leader will have. This helps to show that you and the BPS are taking all reasonable care with your safety and are also taking a responsible attitude to conservation. These codes have recently been updated (January 2020) and for convenience both documents are reproduced below and are also available on the BPS website. For comparison, the previous versions were published in the 2012 *Bulletin* (Vol. 7 No. 5, pp. 474-475).

Bryan Smith
Meetings Secretary

CODE OF CONDUCT

FOR PICKING, COLLECTING, PHOTOGRAPHING AND ENJOYING WILD PLANTS

A new Code of Conduct was produced by the Botanical Society of Britain and Ireland (BSBI) with support from the BPS and is available on the BSBI website. The main points relating to pteridophytes are outlined here. Members are urged to follow these guidelines. Although the information provided here relates only to the British Isles, similar legislation exists abroad. Members are urged to follow the same standards abroad as they do at home and always to act within local legislation.

LEGAL PROTECTION

All wild plants are protected by law in the United Kingdom. Under the Wildlife and Countryside Act 1981, it is illegal to uproot any plant without permission from the landowner or occupier. Similar protection is given to plants in Northern Ireland under the Wildlife and Natural Environment Act (Northern Ireland) 2011. Furthermore, many nature reserves, including National Trust land, have bylaws in force making it illegal to pick, uproot or remove plants. Several of our rarest plants are specifically protected under Schedule 8 of the Wildlife and Countryside Act against intentional picking, uprooting and destruction, unless damage is a result of a lawful activity and could not reasonably have been avoided.

The pteridophytes listed on Schedule 8 are *Cystopteris dickieana*, *Equisetum ramosissimum*, *Ophioglossum lusitanicum*, *Trichomanes speciosum* (including its gametophytic form), *Woodsia alpina* and *W. ilvensis*. In Northern Ireland *Diphasiastrum alpinum*, *Gymnocarpium dryopteris*, *Lycopodiella inundata*, *Lycopodium clavatum* and *Polystichum lonchitis* are similarly protected. In the Republic of Ireland the following pteridophytes are specifically listed: *Asplenium obovatum*, *A. septentrionale*, *Cryptogramma crispa*, *Equisetum xmoorei*, *Gymnocarpium robertianum*, *Lycopodiella inundata*, *Pilularia globulifera* and *Trichomanes speciosum*.

RESPONSIBLE CONDUCT

Collecting small amounts of plant material for private study, research or as voucher specimens is usually acceptable, except in the case of protected and rare species. Local laws should of course always be adhered to. In any circumstance, no collecting of any plant material should be undertaken on a nature reserve or protected site without first obtaining permission.

When meetings are held in countries outside the UK it is important to note that local laws and regulations on picking and collecting can be very different. The BPS abides by the provisions of the Convention of Biological Diversity (CBD). Therefore plant material can

only be collected and imported with the correct permissions and authorisations from both the visited country and the UK. This includes any relevant phytosanitary certification. **It is your responsibility to ensure you are acting in accordance with relevant laws.** It is important to note that 'plant material' includes spores and that 'wild' and 'cultivated' plants are **not** differentiated under the CBD, and the same provisions apply.

The Nagoya Protocol (NP) is a related component of the CBD that ensures the benefit sharing with the country of origin of any developmental improvements or profits obtained from plants. Genetic material collected from the wild since October 12th 2014 is covered by the Nagoya Protocol, which is legally binding in the UK. For material from signatory countries, unless there is written consent from the country of origin, 'utilization' is not permitted. This includes the selection and development of new named cultivars and hybrids as well as production of new drugs and other products. Cultivation, privately or commercially, is permitted.

HABITAT CONSERVATION

Rare plants are often rare because they require specific conditions, and unintentional damage to their habitats can easily occur. A particular threat is soil compaction. Should you visit a rare plant then please avoid doing anything which will alter the site conditions, such as disturbing the surrounding vegetation for photographic purposes, or excessive trampling of surrounding vegetation.

INTRODUCING PLANTS TO THE WILD

Non-native plants should never be introduced into the wild and it is an offence to introduce certain plant species into the wild, these are listed under Schedule 9 of the Wildlife and Countryside Act, 1981 and Wildlife (Northern Ireland) 1985 orders as amended. Two are ferns: *Azolla filiculoides* and *Salvinia molesta*. Caution should be exercised and clothing checked where there is the possibility of transfer of material of these, or related non-native species.

<https://ebps.org.uk/wp-content/uploads/2020/02/BPS-Code-of-Conduct-Jan-2020.pdf>

BRITISH PTERIDOLOGICAL SOCIETY SAFETY CODE

In common with other scientific and natural history societies, the BPS has drawn up a Safety Code for its meetings, in particular field meetings. Every participant should read the code and take the appropriate responsible action for each meeting he or she attends. It is a condition of attendance that you, and not the BPS, will be responsible at all times for your own safety and conduct, and that you will not jeopardise the safety of other participants.

PARTICIPATION IN MEETINGS

It is the duty of all participants to practise extreme care and common sense and not to take risks. The following points are particularly important in taking ultimate responsibility for your own safety:

1. Ensure that you are adequately clothed and equipped.
2. The meeting leader will have carried out a risk assessment. Pay attention and make sure you understand the risks when these are explained.
3. Never leave the main party without notifying the leader of your plans.
4. Pay particular attention to the hazards of the terrain and their potential danger, as a result of your actions, to others. For example be careful not to dislodge loose stones and boulders.
5. Do not rock-climb without experience and the proper equipment.

6. Do not damage walls, fences, hedges, gates, etc.
7. Leave gates open/shut as the party finds them.
8. Take care not to start a fire.
9. Familiarise yourself with the procedure to adopt in the event of an accident in the field (see below).
10. Follow the advice and instructions of the leader.

CLOTHING AND EQUIPMENT

Always carry suitable outer clothing for example windproof and waterproof outer clothing depending on the conditions; and wear suitable footwear, e.g. walking boots or, in certain circumstances, wellingtons. All clothing should be suitable for the job (e.g. jeans are not recommended for some outdoor activities especially in cold/wet conditions) and for the worst potential weather. Carry sufficient food and drink for the excursion, with some extra in case of emergency. The meeting leader may have a first aid kit but carrying one of your own is advisable.

In **mountains**, the following are necessary:

1. Suitable warm clothing preferably of layers that can be removed or added to as necessary. Modern thermal materials are recommended. Depending on conditions gloves and suitable headgear may also be appropriate. Exposure to sun may be a factor in choice of headgear in particular.
2. Properly fitting walking or climbing boots; footwear should ideally be waterproof. Wellingtons may be appropriate in some circumstances but generally only for short distances. However, some modern wellingtons are designed for walking and may be appropriate.
3. A rucksack with spare sweater/ top layer and (if not being worn) waterproof outer layer and over-trousers.
4. A whistle, compass, maps, torch, first-aid kit. A GPS unit with spare batteries is a useful addition.
5. An emergency survival bag if more than ½-hour from the nearest inhabited place.

Gaiters and trekking poles may be useful additions depending on terrain and conditions; these are a matter of personal preference. At all outdoor meetings, it is worth considering carrying an emergency survival blanket. They can be obtained for a few pounds from retail outlets selling outdoor leisure clothing and equipment or on line. They are very light (c.85g) and occupy very little space.

PROCEDURE IN THE EVENT OF AN ACCIDENT IN THE FIELD

First-aid must be rendered at once, and medical and relief help should be sought if necessary. Prevention of exposure is almost always possible through adequate clothing, equipment and procedure, but if a case of exposure is suspected the initial treatment is additional warm clothing and a windproof or waterproof outer garment, plus ingestion of a source of rapidly absorbed food, such as sugar or glucose in solid or liquid form, preferably hot liquid.

THE INTERNATIONAL DISTRESS CODE IN MOUNTAINS

Six long flashes/blasts/shouts/waves in succession, repeated at 1-minute intervals.

The following publication may also prove helpful: Garside, John (published 2010) *Safety on Mountains*. Published by the British Mountaineering Council and available from them or through booksellers and on-line.

MEETINGS PROGRAMME 2020

Meetings Secretary:	Bryan Smith
Meetings Subcommittee:	Bruce Brown, Roger Golding, Nick Hards, Steve Munyard, Julian Reed, Paul Ripley, Fred Rumsey
Sat. 18 April	AGM & Spring Indoor Meeting (London) - CANCELLED due to concerns about coronavirus; AGM re-scheduled for 7th Nov.
Thurs. 18 - Sun. 21 June	*BBC Gardeners' World Live - NEC, Birmingham: BPS Stand Contacts: Gill & Bryan Smith
Sat. 20 - Sun. 21 June	*Specialist Plant Show - RHS Wisley, Surrey: BPS Stand Contact: Jude Lawton
Sat. 11 - Sun. 12 July	Weekend field meeting - Eskdale, Cumbria Leader/Contact: Robert Sykes
Sat. 18 - Sun. 19 July	BPS Hardy & Tender Fern Show - RHS Wisley, Surrey Contact: Julian Reed
Sat. 1 - Fri. 14 Aug.	Gardens & field meeting: Seattle, USA Leader: Sue Olsen. Contact: Julian Reed
Thurs. 20 - Sun. 23 Aug.	*Southport Flower Show: BPS Stand Contact: Michael Hayward
Sat. 29 Aug. - Thurs. 3 Sept.	Field meeting - Scotland - rarities & specialities, part 2 Leader/Contact: Roger Golding
Sat. 12 - Sun. 13 Sept.	Cultivar weekend - Kent & East Sussex gardens Contact: Julian Reed
Sat. 26 - Sun. 27 Sept.	Weekend field meeting - South Devon Leader/Contact: Martin Rickard
Sat. 7 Nov.	AGM & Autumn Indoor Meeting - Biddulph Old Hall, Staffordshire Leader/Contact: Shaun Barton

** Event supported by, but not organised by, the BPS.*

For further details of these meetings please see the Meetings Programme sheets sent to members with the Autumn Mailing and also available on the BPS website. For general enquiries about meetings, contact the Meetings Secretary (Meetings@eBPS.org.uk).

REGIONAL MEETINGS

These meetings are open to all members, so if you are visiting one of the following areas you would be very welcome to join in. For details of meetings please see the BPS website or contact the regional organisers by e-mail, or by post enclosing a stamped addressed envelope.

Cornwall & Devon	Ian Bennallick, Lower Polmorla, St Wenn, Bodmin, Cornwall PL30 5PE Cornwall@eBPS.org.uk
East Anglia	Peter Blake, 14 Mill Hill Road, Norwich NR2 3DP EastAnglia@eBPS.org.uk
Manchester & N. Midlands	Mike Canaway ManchesterNorthMidlands@eBPS.org.uk
Midlands	Matt Busby, 16 Kirby Corner Road, Canley, Coventry CV4 8GD Midlands@eBPS.org.uk
North Wales	David Hill, 54 Grosvenor Avenue, Rhyl, Denbighshire LL18 4HB NorthWales@eBPS.org.uk
North-West England	Robert Sykes, 1 Moss Howe, Crosthwaite, Kendal, Cumbria LA8 8BW NorthWest@eBPS.org.uk
Scotland	Bridget Laue, 50 Liberton Brae, Edinburgh EH16 6AF; Scotland@eBPS.org.uk
South-East England	Julian Reed, 19a Northdown Road, Kemsing, Sevenoaks, Kent TN15 6SD & Peter Clare; SouthEast@eBPS.org.uk
S. Wales & Borders	Brian Dockerill, 19 Westfield Road, Glyncoch, Pontypridd, Mid-Glam., CF37 3AG; SouthWalesBorders@eBPS.org.uk
Wessex	Jo Basil, 14 Royden Lane, Boldre, Lymington, Hants. SO41 8PE & Andrew Leonard; Wessex@eBPS.org.uk
Yorkshire	Barry Wright, 130 Prince Rupert Drive, Tockwith, York, North Yorks. YO26 7PU; Yorkshire@eBPS.org.uk

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The British Pteridological Society

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